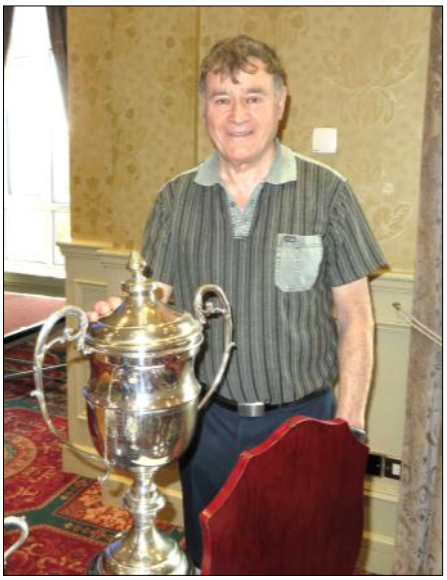
Echo Ireland

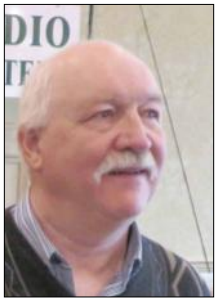
Irish Radio Transmitters Society

Summer 2018 - 86 Years



IRTS AGM & Rally
April 2018

Photos by
EI3IX & EI7GY



PATRON **Michael D. Higgins**
PRESIDENT OF IRELAND

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Vice-President: Pat O'Connor EI9HX

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Dave O'Connor EI6AL
Brendan Minish EI6IZ
Anthony Dolan EI6GGB
Gerry Gervin EI8CC
Brian Canning EI8IU
John McCarthy EI8JA
Louis Ryan EI8KI
Tom McDermott EI9CJ
Declan Horan EI9FVB

Our President writes…

Photo by Derek Peyton EI7FM

I am honoured to have been elected President of IRTS at the 86th AGM in Galway.

I grew up in Abbeyleix, Co. Laois. There was very little knowledge or information around regarding Amateur Radio in such a rural environment. My first encounter with electronics was in national school through a Christian Brothers' publication called "Our Boys"! There was a small article on a simple transistor circuit followed by a question and answer session. I was hooked! I subsequently had my parents driven mad by regularly taking the old "Wireless" apart on several occasions.

I got my licence in 1990 and very soon afterwards sat my Morse test. Getting my full callsign, at that time, meant more to me than all the exams I had ever done previously.

I joined the IRTS Committee in 2009. Like most of the ordinary members I had no real idea of the work that the Society undertakes. The Society works both nationally and internationally to influence solutions to difficult problems of rising noise levels, interference and commercial pressure on frequency use. To this end we have regular meetings with ComReg and in September 2017 an IRTS delegation took a very part in the IARU Region 1 Conference in Landshut, Germany.

Amateur Radio as a hobby has changed immensely, particularly in the last decade. When computers and the Internet were first introduced many "soothsayers" predicted the demise of our hobby. But in true "Amateur" spirit we adopted and adapted to the new technologies. Computers and the Internet are now an integral part of our hobby. Actually, we are primarily and more appropriately Radio Experimenters. The IARU quotes Amateur Radio as "The greatest of all scientific hobbies".

Nevertheless, we must not rest on our laurels. The greatest concern nowadays is in attracting new vibrant members into the hobby. This issue is being addressed by the IARU, ARRL, RSGB, etc. But we cannot leave it to outside bodies to look after our own problems. Our Society, like many others, is founded on the work of volunteers. We cannot survive or progress without such a spirit. We need your help at individual, club and IRTS level. With the ever more complicated Spectrum Strategies, Webpage maintenance and development and Editorial functions, going forward, the Society will need enthusiastic, committed individuals to take up these roles.

Again, I am honoured to have been elected President of this distinguished Society which has always punched above its weight in terms of the quality of its work (e.g., Echo Ireland) and in maintaining our national profile both at home and abroad.

I would like to thank you, our Members for your ongoing support and also to the Committee and Officers without whose work our Society would not exist or survive.

73s

Jim Holohan EI4HH

President IRTS

Radio News Bulletins and Readers

Sunday

National	1100	7.123	SSB	Sean EI7CD, Paul EI2CA
Dublin	1145	145.525	FM	Tony EI5EM, John EI7JG, Frank EI6EF, Liam EI3HK
National	1200	3.650	SSB	Sean EI7CD, Eddie EI3FFB
Mayo	2100	145.600	FM	Padraic EI9JA, John EI7FAB, Jimmy EI2GCB, John EI8GIB, Dominic EI9JS

Monday

Cork	2000	145.750	FM	Vincent EI7HN
Limerick	2000	145.725	FM	Brian EI9AL, Simon EI7ALB, John EI5HDB, Harry EI2KL
Louth	2000	145.675	FM	Anthony EI2KC, Jim EI2HJB

Tuesday

Waterford	2130	145.650	FM	David EI6GVB, Sean EI2HZB, Mark EI7IS

News from around the Clubs

Dundalk Amateur Radio Society

Brian Whelan EI8EJB

DARS held their Annual General Meeting on May 2nd at Marconi House, Dundalk. It was very well attended and a quorum of member numbers was reached which, under the Club Constitution, was required to allow the election of the incoming committee to be held.

A minute's silence was observed to reflect and remember our friends and colleagues who had passed away since the last AGM, namely, Tony Allen EI4DIB and Aidan Murphy EI5HW. Rest In Peace.

Prior to the election, the outgoing committee gave individual reports for the past year's activities.

The newly elected committee for 2018 is as follows:

President	Kieran Daly EI9DA
Chairman	Hugh Bradley EI9KF
Secretary	Brian Whelan EI8EJB
Treasurer	Jim Daly EI2HJB
P.R.O.	Thos Caffrey EI2JD
QSL Manager	Sean Kennedy EI4IP
IRTS Club Rep.	Tom McDermott EI9CJ
Caretaker	Ivan Tallon EI1166

The DARS Technical Manager is Richard Hendy MI3CQR with responsibility for maintaining "all things technical" within the club, including repeaters, EchoLink gateways and club website.

The new chairman, Hugh EI9KF, outlined a progressive and very comprehensive plan of activities for the year, with scheduled talks from both club members and external invitees, operations from the club station EI7DAR, activation of a Special Event Station to commemorate a very historic local event (more to follow), taking part in the various IRTS contests and many other events and projects to both increase public awareness of amateur radio and also to keep on air activation of the different bands, including VHF and UHF "to maintain a presence" of the club in the North East region. A drive will be made to attract new members to build up the ranks.

A new UHF MMDVM digital repeater serving the Louth and surrounding areas is almost completed and currently awaiting the licence from ComReg having had approval from the IRTS Repeater Co-ordination Committee. Thanks to all involved for the approval.

The DARS 2018 Committee wish to thank all those members in the club for their continued support and we look forward to a busy year ahead.

Limerick Radio Club

Simon Kenny EI7ALB

With the college holidays approaching the regular Limerick Radio Club Meetings, at the Limerick Institute of Technology, are suspended until September. In the meantime several club activities to take place over the summer months have been identified.

The International Lighthouse & Lightship Weekend has been a big success and well supported over the past number of year. Up to 14 club members have participated over the two days. This year set up will be on Friday 17th August and take down on Sunday 19 August 2018 (48 hours).

A show and tell day is planned for new LRC members. Various rigs will be on show to help new members to decide on any planned purchases. Antenna and antenna locations will be discussed.

There are plans for the club and individuals to participate in the EI100MCV and the IRTS CW and SSB Field days also the 70cm and 2m Counties Contests.

An attempt will be made to do some moonbounce, aka EME. Most of the equipment is in place from when the Club participated in the Brendan Quest 2m attempt with the Canadian station VC1T in July 2014. Since that attempt was point-to-point it will be necessary to introduce moon tracking to the antenna system.

Should there be sufficient interest, the club will run a HAREC course in the Autumn.

IL&LW at Loop Head

Remember to include the
Eircode in your address when contacting IRTS
memrecords@irts.ie

Shannon Basin Radio Club

Brian Canning EI8IU

Shannon Basin Radio Club held a meeting in Roscommon a few weeks ago. It was one of the best attended meetings in a while and it is great to see that the interest and enthusiasm is returning to the hobby. The club would like to thank Mark Bannon EI6HPB (IRTS PRO) for attending.

The IRTS AGM/Rally 2019 was the main topic for discussion . The dates are 13/14th April 2019 in The Shamrock Lodge Hotel, Athlone. Full details will be available on IRTS and Shannon Basin websites in due course. Even at this early stage it is promising to be a great weekend!

Other topics discussed were taking part in the IOTA and SSB field day contests for which plans are in place. The club also hopes to activate a local museum as part of Museums On The Air weekend in June, again see the club website for details.

The FT8 mode was again on the agenda with mixed opinions on the mode. Several members are trying to work the special event stations from Belgium (active in May) celebrating 70 years of the UBA, with several diamond awards in prospect.

SBRC club will be operating from the Cavan and Leitrim Railway in Dromod County Leitrim as part of the museums on the air weekend. We will be active on Sunday 17th June from 10:00. See *www.cavanandleitrim* for directions. All are welcome to attend and maybe operate if they so wish.

The next club meeting will be in July. Please see the club website for date, time and location. Anyone wishing to join the club or get information on next year's AGM/Rally weekend please see *www.shannonbasinradioclub.com* or join the club's Facebook page.

(L to R) Mark EI6HPB, Paul SWL EI1701, Brian EI8IU, Fergus EI6IB, Mark EI6JK, Niall EI4CF, Ian SWL, Anthony EI6GGB
(Back to camera, L to R)Pat EI9HX, Enda EI2II, Sean SWL EI1194
Missing from photo are Craig EI3FW and Tom EI4HCB

Owen EI4GGB, Sean SWL EI1194 and Enda EI2II

South Eastern Amateur Radio Group

Seán Byrne EI2HZB

The 2018 AGM of the South Eastern Amateur Radio Group took place on Monday the 26th of February 2018 at 8pm in the Roanmore Centre, Cleaboy Rd, Waterford. Club Chairman Eoghan EI5HBB welcomed the large crowd present for attending. Eoghan then went on to give a report on the highly successful year that 2017 had been for the club.

Eoghan also listed some of the club activations throughout 2017 including the regular Geopark Weekend, Lighthouse on the Air and the Railways on the Air weekend. He also noted the highly successful "Introduction to amateur radio Course" which the club organised in October 2017. This course had a large attendance and will hopefully help to bring more people in to the hobby.

Club treasurer Mark EI7IS gave a report on the finances of the club for the 2017 year noting that 2017 had been a highly successful year financially and that membership was almost at 50 members currently.

Chairman Eoghan EI5HBB then thanked the outgoing committee members for all their hard work over the previous year and the following committee was then deemed elected for 2018 from all those present:

Chairman	John Tubbritt EI3HQB
Vice Chairman	Mark Kilmartin EI4FNB
Secretary	David Gainda EI6GVB
Treasurer	Mark Wall EI7IS
Public Relations Officer	Sean Byrne EI2HZB
Club Officer 1	John Ronan EI7IG
Club Officer 2	Eoghan Kinane EI5HBB
Club Officer 3	Wayne Lewis EI7HKB

Tipperary Amateur Radio Group

Ronan Daly EI4KN

It has been a busy few months for our club members. Olivier ON4EI/EI8GQB came 6th in the world in his category in the recent CQ WPX SSB contest using our club contest call EI7T.

Several club members participated in the 2m & 70cms contests on Easter Monday with a win for Ronan EI4KN in the SSB/FM low power fixed category.

Our latest club meeting was held on the 3rd May in Clonmel and was well attended. The club would like to extend a warm welcome to Brian SWL.

Club member John EI7IG has been instrumental in setting up a new multimode repeater EI7WCD in Tramore, Co. Waterford. The repeater operates on 439.675 MHz with a -9 MHz split.

The radio news service on 145.450 MHz unfortunately has been withdrawn due to the lack of participation. This may be reviewed at a future date.

Avondhu Radio Club

Gerard Scannell EI5KF

Avondhu Radio Club was on the air with the callsign EI1IMD, for International Marconi Day 2018. This year the site chosen was at Derrigimlagh, outside Clifden, Co. Galway.

Marconi set up a 300kW station back in 1907 on this site. This was one of the first transatlantic stations, then operating on 109kHZ. In 1922, operating on 52kHz, it was shut down.

Initially it operated simplex. In 1909 a separate receive station was built on site. Then in 1913 a remote receive station was built at Letterfrack, which allowed full duplex operation.

The Derrigimlagh site is set in the middle of the beautiful Connemara countryside, with views to the north of the 12 Bens.

Entrance to Marconi Site at Derrigimlagh, Clifden

Marconi build a power house to generate electricity from peat powered steam turbines, many years before rural electrification. The high tension DC voltage was made from 3 x 5kV generators in series to give 15kV. This was utilised in his huge condenser house to provide the spark of transmission. Equipment operated at over 100kV in this building.

Condenser House

Power House

Reports from the time say the discharge made a massive boom, that was like "thunder and lightning".

Today, all that remains are foundations. However, it is still interesting to visit and it is now an official site on the Wild Atlantic Way. The information boards and trails around the site are well done.

After last year's success, the EIDX Group are delighted to announce the dates for 'DX Féile 2018'.

'Féile', is a word taken from the Irish language (Gaelic) and translates into English as 'Festival'. So basically, we are holding a 'DX Festival' this coming September but with an IOTA twist! The chosen venue for this 'festival' is quite unique as it is actually on Inis Mór, Aran Islands (EU-006). As part of the 'Irish Islands IOTA Tour 2018', two stations will be QRV for the weekend, and attendees will be able to operate the **EJ0DXG** callsign and participate in this exciting event.

We have chosen an amazing lineup of DX-related talks presented by some of the world's finest DXpeditioners. Add this with other activities such as the DX Quiz, pile-up challenges, DX raffle, the friendly Irish atmosphere agus *Céad Míle Fáilte* (one hundred thousand welcomes) will make for a great DX-filled weekend for sure.

Keep an eye on the website *www.dxfeile.ie/bookings/* as these pages will open shortly and due to last year's success, we know this will sell out real fast. See more information on page 35 of this edition of Echo Ireland.

IECRO Radio Club

Mark Bannon EI6HPB

The IECRO Radio Club EI0IPN will be shortly beginning its next session of training courses to prepare candidates for the license examination at the end of this year.

If you have been thinking of personally becoming an amateur radio operator, or have a friend who may be interested in becoming licensed, then the IECRO Radio Club in Mullingar may be able to assist in preparation for the examination. The aim of the clubs training programme is to ensure that examination candidates have both a very high level of knowledge relating to all aspects of the exam syllabus and plenty of practical experience. A good number of candidates have already signed up.

To enquire or to book a place, contact can be made via email to *info.iecro@gmail.com*. Anyone who has already emailed the club and received a confirmation reply, will be notified of the start date closer to the time.

Ye Olde Hurdy Gurdy Museum of Vintage Radio will take part in the **International Museums Weekend** event on Saturday and Sunday 16th and 17th of June from the Martello Tower in Howth using the callsign EI0MAR.

Visitors are welcome to come along and particularly welcome are volunteer operators on CW or SSB. If interested in operating please send details of when you would be available to *ei0mar@eircom.net*.

IRTS Committee Meetings

IRTS would like to remind all affiliated clubs to nominate a member of their club who is also a member of IRTS to act as the club's representative for this year. Some clubs have already done so. For additional information regarding this role, please make contact with the IRTS Secretary.

IRTS Officers and Club Reps are entitled to attend the monthly IRTS meetings and are most welcome. While not essential advance notice of attendance to the Secretary would be welcomed to facilitate seating arrangements.

Meetings are generally held on Saturday starting at 11.00 and finishing at 1300.

Forthcoming Meetings

Saturday **23rd June** 11am Creggan Court Hotel, Athlone
Saturday **21st July** 11am Maldron Hotel, Portlaoise
Saturday **15th Sept** 11am Creggan Court Hotel, Athlone

Lough Erne Amateur Radio Club

David Calderwood GI4VHO

The Club held its annual Rally at the Share Centre near Lisnaskea on the 13th May. The number of attendees was up this year from 164 last year to 182 this year.

The Club is always pleased to see traders and visitors from EI. Indeed, this year's takings in euros would indicate that around 50 visitors were from EI.

Approximately 40 tables were in use. In addition to traders there were representatives from RSGB, WABI (Worked All Britain/Ireland), Mid Ulster ARC, BYLARA (British Young Ladies Association), NI QSL bureau and IRTS.

Two other items of news:
One of our club's members Nathan Prentice, 2I0NTP has been selected to join three others on the UK team to attend YOTA (Youngsters on the Air) in South Africa this summer. It is a great honour to be selected and reflects Nathan's contributions to the club including a talk he gave on Raspberry Pi and its application to amateur radio.

The club will operate GB2MAC during GeoPark weekend, 9th and 10th June. QSL will be via LoTW, eQSL and bureau.

The Skerries Radio Club EI2NCR/P

Pat Fitzpatrick EI2HX

On the 13th and 14th of May the Mills on air weekend for 2018 took place, and the Skerries Radio Club (EI 2 NCR) activated one of the three mills on site.

The weather was very good over the weekend and the wind was not an issue over the days we were at our usual Mill in the Skerries Mill complex.

We started to arrive on site at 9:00 am and after a short meeting about the aerials location, the centre of the aerial (a full size G5RV) was attached to the telescopic mast and raised to its full height of 11m. Either ends of the aerial were attached to a couple of poles to try and get the aerial as near to horizontal as we could, as the windmill is on an a partially elevated site and one leg would have been a lot lower than the other one.

With one crew on the aerial detail, the other crew was sorting out the shack layout; the radio for the weekend was a Kenwood TS 570D, with its matching speaker with a switch-mode supply running the radio.

It was noted by the crew that setup the radio that one of the connectors wasn't great and to keep an eye out if there was a power cut and check the fittings. OOOPS!

All went okay for the first few QSOs and the "HELLO" was noticed on the rig's display (this comes on the display on the KENWOOD when you switch it on). The connection was found to be good and we carried on, but after two more QSOs it happened again so a shut down was ordered and some testing done. The first thing done was a good check on the connectors but whilst they appeared a bit flimsy they had a good hold on the cable and power supply so they were ruled out. The power supply was next and it was found to be giving out nearly 20 volts (EI3HS).

While one club member went to get the spare supply out of his car (EI4IN) it was noticed that the adjustable knob for the output DC was turned up full and hence the near 20 volts output. The supply was mine (EI2HX) and is one I use at home, even as late as the night before. So the dial must have turned during the transit from my shack to the Mill station, even if the PSU dial has the little "click" at 13.8 volts - something to keep an eye out for in the future.

On the air we found the bands were very quiet over the weekend but we worked many fellow mill stations and a few non mills as well. We remade many contacts with old mill friends from previous years from the UK and Holland.

It was interesting over the weekend talking to the other mill stations, as we found out how well off we were, as we were sitting in one of the fully restored mills on site, with mains power, while some others were sitting beside a pile of stones.

Our Shack

A few details of our weekend home which was built in 1821 and stands just over 15m height. The sails have a diameter of 20m. You can get all the details at *skerriesmills.ie*. It was a busy time at the mill as usual, as there are always guided tours of the mills on site.

We had a few visitors over the weekend, including a couple of OMs from Malta, and the kettle was never far off the boil!

And finally

Skerries Radio Club would like to thank the management and staff of the Skerries Mills Complex for looking after us over the weekend. Please checkout their website by visiting them at *skerriesmills.ie*.

An Coimisiún um Rialáil Cumarsáide
Commission for Communications Regulation

ComReg Licensing

May 2018

ComReg has finalised its new online application facility for all Amateur Station licence applications.

All applications for Amateur Station Licences should now be submitted through the eLicensing website.

Details:

- The facility will be available via the existing elicensing website;
  www.elicensing.comreg.ie
- The only Payment option for Amateur Station Applications is by credit card
- Detailed instructions how to submit an application may be found on our website
  www.elicensing.comreg.ie
- Please email *licensing@comreg.ie* for all queries in relation to the above.

Morse Test Details - Joe Ryan EI7GY

joe.ei7gy@gmail.com

A pass in the Amateur Station Licence Exam entitles the holder to apply for a CEPT Class 2 licence. To obtain a CEPT Class 1 licence (necessary to operate on the HF bands in some countries) both the Amateur Station Licence Exam and a Morse Test must be passed. The Morse Test is conducted at 5 words per minute.

EI CEPT Class 2 licences are assigned three-letter call signs ending in "B", Class 1 licences are assigned two-letter call signs.

The test consists of the following:

- Receiving 75 characters of plain language* with no more than four errors;
- Sending, using a straight key, 75 characters of plain language* with no more than four uncorrected errors;
- Receiving 5 groups of numbers, in five figure groups, with no more than three errors;
- Sending, using a straight key, 5 groups of numbers, in five-figure groups, with no more than three uncorrected errors.

Applying for a Morse Test
Morse tests are held at most rallies and at other venues as required, subject to the availability of one of the approved Morse Testers. A request for a Morse test should be made to the **Morse Test Coordinator Seán Donelan EI4GK** (see *www.irts.ie/officers* for contact details). Photo identity must be produced by the candidate on the day of the test. The photo ID can be a driving licence, a passport, an employment photo identity card or a student card containing a photograph. A national Garda photo ID is also acceptable.

The fee for the test is €20, payable by cash or cheque when the test is taken. Alternatively, payment may be made in advance by credit card or PayPal using our online payments system.

Note that, if payment is made using the online payments system, the assigned Morse Tester must be informed of this payment at least 24 hours before the test is due to take place.

Sample Morse Test Files
Audio files in MP3 format for plain language (including punctuation) and numbers can be downloaded from the IRTS web site *www.irts.ie/morse*

**The plain language section of the test will include the more commonly used punctuation marks as set out in the table below; any punctuation received or sent to be written using the symbol / prosign*

Symbol / prosign	Code	Name
.	• – • – • –	Full Stop
,	– – • • – –	Comma
?	• • – – • •	Question mark
/	– • • – •	Oblique stroke
=	– • • • –	Break
CT	– • – • –	Commence Transmission
error	• • • • • • • •	Error
AR	• – • – •	End of Message

Beginning June 1st 2018, the EIDX Group will activate all Irish IOTA Groups. Using the 'Echo Juliet' prefix, EJ0DXG will be QRV from IOTA EU-006, EU-007, EU-103 and EU-121 this summer.

Supported by dxwanted.net, a beautiful plaque will be available for whoever works then on four different IOTA groups. So, as a 'bonus' or 'wildcard' station, **EI0DXG** will also be QRV from Mainland Ireland (EU-115) throughout and until September 30th 2018.

Why not try to work them on all five IOTA groups?

Follow them on Facebook for up to date information & dates of all other activations:
https://www.facebook.com/groups/185038478993063/

Teams are already confirmed with all necessary permissions in hand. 6m fans should note that some of these islands are also in rare Grid squares and for Worked All Ireland followers will also count towards the Island award.

Starting off with 'Little Saltee Island' EU-103 on June 15/16/17/18th the group will be QRV on HF and 6m bands using CW, SSB and Digital modes.

July will see activity from the Great Blasket Island EU-007, while August will see EU-121 grace the bands from Bere Island.

The Group's final Island activity ends September 16th as part of their **DX Féile** weekend from Inishmore, Aran Islands EU-006.

IRTS Weekend 2018 - 14/15th April
Steve Wright EI5DD

It was very much by accident that the Galway hosted this, the 86th Annual General Meeting Weekend of the IRTS. The original plan was to hold in Cork but, on reflection, it was not practical and so there was a vacuum.

The Galway VHF Group put their name forward at the last minute following a brief call to the Galway Bay Hotel. This is, in fact, the 4th IRTS Function organised by Steve EI5DD. The first was in 1985 in the Warwick Hotel, Galway (sadly the Warwick closed in 2008), the second was 1992 in the Royal Hoey Hotel, Athlone, the third in the Galway Bay Hotel 2014 and this one in the Galway Bay Hotel for 2018. The service and facilities were excellent as on the previous occasion.

On Saturday the 14th at 2 pm a series of talks were given on the following topics:

Getting Started with Digital Radio by Steve Wright EI5DD

The 7Q7EI DXpedition by Enda Broderick EI2II and Pat O'Connor EI9HX

The FT8 Digital Mode by Keith Wallace EI5KO

Having fun in Space by Graham Shirville, G3VZV.

The talks were of 45 minutes duration and saw a good attendance and great interest. Special thanks to all of the lectures who presented their specialist subjects.

The Annual Dinner took place at 7:30 pm and this was attended by 69 people. The food and service was excellent. It was a shame that a number had reserved tickets and didn't show. This placed a burden on the Galway VHF Group who had to book for 75 on the basis of these reservations. Naturally, the hotel held the organisers to this number. Fortunately, the return of the IRTS Swindle helped defray losses.

EI5DD, EI2II, EI5KO, G3VZV
Photos EI3IX & EI7GY

New Band Plans for New Spectrum

Introduction
IRTS is pleased to announce the introduction of additional frequencies for use by the amateur radio community here in Ireland. ComReg in December 2015 published a Draft Radio Spectrum Management Strategy 2016-2018. The Society responded with a comprehensive submission to this draft and a summary of this was published in the March 2016 edition of Echo Ireland.

In June 2016 ComReg published its final Radio Spectrum Management Strategy 2016-2018 and indicated its intention to grant some additional spectrum to the amateur service. This has now been done and is in line with some of the requests made in the Society's submission.

Summary
The 70 MHz band has been extended to 69.9 MHz to 70.5 MHz. This is an increase of 275kHz over the existing band of 70.125 to 70.450 MHz and is the full band that may be allocated to the amateur service under the European Common Allocations table.

Further spectrum covering all modes including digimodes has been granted on a secondary basis at 30 to 49 MHz and 54 to 69.9 MHz. The latter band also includes digital television in addition to all other modes. These new frequency bands are listed among the bands available generally to radio amateurs in Annex 1 of a recently revised version of the Amateur Station Licence Guidelines document ComReg 09/45 R4 which is available on the ComReg website.

The new bands in the 40 MHz and 60 MHz regions will, among other things, facilitate modern type beacons in the region of these frequencies as well as moving the existing 70MHz beacon on 70.130 MHz to the section of the band designated for beacons.

Use of the new spectrum
It is now necessary to discuss with interested parties how the spectrum should be used nationally. The IRTS Committee has therefore convened a sub-committee with the task of developing initial band plans as well as developing and planning suitable beacons for propagation research. The document which is publically available on the IRTS website and is essentially reproduced herein is intended to start and stimulate the necessary discussions within Ireland as well as with interested parties outside Ireland. The document has also been provided to IARU VHF/spectrum managers in countries having frequency allocations or assignments to the Amateur Service in the range 30 - 49 MHz and 54 – 69.9 MHz, as well as to the Chairman of the IARU Region 1 VHF and Microwave Committee. Annex 1 and Annex 2 reproduced on the following pages set out bandplans for discussion.

The New Spectrum available in Ireland
70 MHz
Importantly the current 4m 70 MHz band in Ireland has been extended. The band limits are now 69.9 MHz to 70.5 MHz, which means the current IARU Region 1 band plan can be fully implemented. This is an increase of 275 kHz over the existing band of 70.125 to 70.450 MHz and is the full band that may be allocated to the amateur service under the European Common Allocations table. Amateur licensees equipped for 4m will be able to utilise this new spectrum immediately. The FM calling channel on 70.450 MHz will be a welcome addition. An agreement in principle has been obtained from the IARU VHF beacon co-ordinator to move EI4RF on 70.130 MHz to 70.013 MHz in order to make it compliant with the IARU band plan.

Additional spectrum covering all modes including MGM has been granted on a secondary basis at 30 to 49 MHz and 54 to 69.9 MHz. These new frequency bands are listed among the bands available generally to radio amateurs in Annex 1 of a recently revised version of the Amateur Station Licence Guidelines document ComReg 09/45 R4 which is available on the ComReg website.

30 – 49 MHz (8 metre band)
Currently there is no regional or international allocation to the amateur service in this part of the radio spectrum in any of the ITU Regions. However in propagation study terms the absence of reliable continuous and identifiable signals in these frequency bands causes problems and means that the progress of a propagation event starting in the HF range and identified using beacons at 28 MHz cannot be reliably tracked as it progresses towards 50 MHz and onwards towards 70 MHz. Nor can general experimentation take place with amateurs in countries which have a national allocation.

In the 1990s a CEPT DSI consultative process raised this issue as a result of input to the consultation process. They believed that beacons could be located at appropriate geographical sites, chosen in order to minimise the possibility of interference to other radio services. The DSI report queried whether the ISM band centred on 40.68 MHz would be appropriate, the beacons possibly using frequencies interleaved with on-site paging. It was felt that a secondary allocation to the amateur service would also seem appropriate.

IARU has encouraged national Member Societies to deploy multi-band beacon clusters covering low VHF between about

30 MHz and about 70 MHz. Beacon clusters should wherever possible provide signals at around 40 MHz and around 60 MHz to supplement those beacons already providing emissions at 30 MHz, 50 MHz and 70 MHz and amateurs are encouraged to set up and maintain automated monitoring stations in order to contribute measurement results to the scientific community. A common transmission format is proposed to aid the reception of multiple clusters.

In the last number of years Denmark, and the UK have authorised such beacons near 40 MHz e.g. on 40.021 and 40.05 MHz respectively, Slovenia has released the band 40.66 -40.70 MHz to the amateur service and South Africa has released the band 40.675-40.685 MHz.

IRTS has developed a draft Band Plan for the frequency band 40 – 44 MHz, a new 8m band; see Annex 1 to this document. For the time being usage of 30 – 40 MHz and 44 – 49 MHz has not been planned. IRTS considers that the band most likely to be transverted to an IF of 28 – 30 MHz might be 40 – 42 MHz.

54 – 69.9 MHz (5m band)

In a similar manner to the direction taken at 40 MHz an allocation in the vicinity of 60 MHz is considered advantageous to facilitate scientific research. The UK already has an amateur propagation beacon on 60.050 MHz. Historically the 5m amateur band in 1949 was 58.5 – 60 MHz and in earlier times 56 - 60 MHz. The same band extended to 69.9 MHz would therefore seem appropriate for amateur propagation studies and experimentation on a national secondary basis. Similarly to 40 MHz the band most likely to be transverted to an IF of 28 – 30 MHz is considered to be 56 – 58 MHz.

The 5m band will also facilitate digital television in addition to all other modes and links the 4m and 6m allocations, although we have to await the outcome of the 2019 ITU World Radiocommunication Conference to determine whether the Amateur Service in Region 1 will gain general access to the 52 – 54 MHz frequency band. IRTS has developed a draft Band Plan for the frequency band 54 – 69.9 MHz, a new 8 metre band; see Annex 2 to this document.

IARU Band Plans

The VHF and microwave committee of IARU Region 1 prepares, revises and maintains the official IARU Region 1 band plans for the 50 MHz, 70MHz, 145 MHz, 435 MHz and the microwave bands. VHF Managers are requested to give maximum publicity to the adopted band plans. In view of the many newcomers, regular repetition of the publication of the band plans is considered advisable. Member Societies, and particularly their VHF Managers or VHF Committees are strongly tasked to promote adherence to the adopted band plans by all VHF/UHF/Microwaves amateurs in their country. Concerning the usage column in the band plans, operators should take notice of these agreements which are made for operating convenience, but no right to reserved frequencies should be derived from a mention in the Usage column or from referenced notes. Users should be aware that these band plans are generic for all members states of IARU-R1.They can be more detailed in some Member States due to practical reasons or legislation. Therefore IARU advises amateur licensees to study and implement their national band plans where these vary from the IARU plans.

Next Steps

IRTS would be grateful to receive any views you may have concerning the draft band plans for the new spectrum available in Ireland. This document provides the background to the award of additional radio spectrum to the Amateur Service in Ireland on a national and secondary basis. The draft band plans at Annex 1 and Annex 2 (loosely based on the current 50 – 54 MHz IARU band plan) are proposed as a starting point for discussions. An early response would be appreciated, latest before 30th June 2018.

Responses please to *newspectrum@irts.ie*

Irish Radio Transmitters Society
www.irts.ie
14 May 2018

[Annex 1 & 2 overleaf]

Annex 1

Draft Band Plans for Consultation

40 – 44 MHz (8 metre) Band plan

Frequency	Maximum Bandwidth	Mode (a)	Usage
40.000 40.100	1000 Hz	Telegraphy MGM	Lower Beacon Band 40.021 (Denmark) and 40.05 (UK) operational
40.100 40.200	500 Hz	Telegraphy	40.150 CW centre of activity and CW calling frequency. 40.190 – 40.200 future intercontinental CW DX sub-band
40.200 40.300	2700 Hz	Telegraphy SSB	40.200 future CW and SSB intercontinental DX calling frequency 40.200 – 40.230 future intercontinental SSB DX sub-band 40.250 SSB centre of activity and SSB calling frequency. 40.285 SSB cross-band centre of activity
40.300 40.660	2700 Hz	Telegraphy MGM	40.305 PSK Centre of activity 40.310 -40.320 future EME centre of activity 40.320 -40.380 MS centre of activity 40.400-40.450 FT8 centre of activity 40.510 SSTV 40.540 -40.580 Simplex FM Internet Voice Gateways 40.620 -40.750 Digital communications 40.630 DV calling
40.660 40.680	1000 Hz	Telegraphy MGM	Upper Beacon Band (Subject to change) 40.661 – 40.674 Slovenia 40.675 – 40.679 South Africa Applicable for countries where Amateur Service is allocated in all or part of the ISM band 40.66 – 40.70 MHz
40.680 40.700	2700 Hz	Telegraphy MGM SSB	SSB frequencies 40.681, 40.684, 40.687, 40.690, 40.693, 40.696 SSB calling frequency 40.681 MHz (Subject to change) Applicable for countries where Amateur Service is allocated in all or parts of the ISM band 40.66 – 40.70 MHz
40.700 42.000	12 kHz	All Modes	41.210 -41.390 FM/DV Repeater Inputs, 20 kHz spacing 41.410 -41.590 FM/DV Simplex 41.510 FM calling frequency 41.810 – 41.990 FM repeaters output channels, 20 kHz spacing
42.000 44.000	500 KHz	All modes	Could be paired with 52 – 54 MHz (subject to the outcome of WRC-19 and/or the CEPT ECA

Annex 2

Draft Band Plans for Consultation

54 – 69.9 MHz (5 metre) Band plan

Frequency	Maximum Bandwidth	Mode (a)	Usage
54.000 56.000	500 kHz	All modes	Could be paired with 42-44 MHz
56.000 56.200	500 Hz	Telegraphy	56.150 CW centre of activity and CW calling frequency.
56.200 56.400	2700 Hz	Telegraphy SSB	56.285 SSB cross-band centre of activity 56.300 SSB centre of activity and SSB calling frequency.
56.400 57.000	2700 Hz	Telegraphy MGM	56.405 PSK Centre of activity 56.410 -56.420 future EME centre of activity 56.420 -56.480 MS centre of activity 56.500-56.550 FT8 centre of activity 56.610 SSTV 56.640 -56.680 Simplex FM Internet Voice Gateways 56.720 -56.750 Digital communications 56.730 DV calling
57.000 59.900	12 kHz	All Modes	57.210 -57.390 FM/DV Repeater Inputs, 20 kHz spacing 57.410 -57.590 FM/DV Simplex 57.510 FM calling frequency 57.810 – 57.990 FM repeaters output channels, 20 kHz spacing
59.900 60.100	1000 Hz	Telegraphy MGM	<u>Beacon Band</u> 60.05 (UK) operational
60.100 69.900	8 MHz	Experimental Broadband and wideband video	65.00 centre frequency

IRTS would be grateful to receive any views you may have concerning the draft band plans for the new spectrum available in Ireland

An early response would be appreciated, to arrive at latest before 30th June 2018.

HF Happenings

Don Brennan EI6IL *ei6il1970@gmail.com*

Greetings and welcome to a new edition of HF Happenings, this time from the shack of EI6IL located in the townland of Togher, Co. Louth. I would like to take the opportunity to pay tribute to Mark Bannon EI6HPB for the time and effort he has put into the hobby including HF Happenings and the mentoring of people in the preparation for their license examination. Without Mark's enthusiasm and help the bands would eventually dry up of radio experimenters. I wish Mark all the best and look forward to hearing from him in the near future.

My passion for radio started as a youngster in Gorey Co. Wexford in the late 1970s when I used to race from primary school to my grandfather's shop on Main Street where he had an ancient shortwave radio. I would spend hours spinning the dial up and down the bands when curiosity got the better of me. I asked my grandfather "what were all those short and long tones" when he took out an old British Army handbook and explained to the best of his knowledge the phenomenon of Morse code. I was hooked and took to learning the code. I came across army field antennas in the same publication and it wasn't long before I strung out various long wires to improve reception.

In 1988 I joined the Irish Naval Service to pursue a career in radio. I had no idea that all the training and grunt work took precedence before switching on a radio. I sat my Radio Experimenter license in 1996 but due to family commitments didn't have the time for radio. I only really got back full on in Jan 2011 and I had alot to learn due to my absence. The state sent me back to college and I qualified as a radio/radar mechanic working on land, sea and a United Nations tour of duty with the 80th Inf Battalion in South Lebanon where I operated as OD5/EI6IL during quiet moments.

So down to business and I note that the HF bands of late have been somewhat erratic with periods of excellent propagation.

Last year 2017 my friend and local ham Doug EI2CN convinced me to throw up an 160m Inverted-L Antenna which I cut in at 1.810 MHz. The antenna has a max vertical height of approx 16m. I now have 32 buried radials and plan to add a few more. I can hear quite well from time to time on this antenna but mostly use a K9AY receive loop which is a gem up to almost 30m. My 160m stats now stand at 120 which isn't bad for two seasons.

A quick review for the first few months of the year and I note that **RI1ANO** from the South Shetlands was very active on CW and FT8. I worked him with 50 watts on the 80m inverted V.

January also brought breaking news as The Republic of Kosovo was finally listed as a new DXCC. Their new prefix is **Z6**.

I logged **Z60A** easily on 20m SSB but battled the pileup for about an hour to work them on 80m CW.

I have read a number of posts regarding the relatively new digital mode FT8 but my opinion is each to their own. Some say its leading to the demise of CW , that may be evident in some small way but overall I find that most CW ops migrate back to the code. It is clear to me that it gives small stations with modest antennas the chance to work DX. PSK reporter is a fantastic web tool which displays on a world map where your transmission is being received. I like this mode because the transmit / receive duty cycle is only 15 seconds. The bandwidth is only 47Hz so to avoid distortion make sure that your processor is off and that your ALC is kept within the limits.

I was on the hunt for **HC8LUT** on 15m SSB but the band "appeared" to be dead so I spun the VFO to 21.150 MHz (NCDXF Beacon) and within a few minutes I heard the **OA4B** beacon in Peru. This indicated to me that the band was open to South America and as the crow flies not a million miles from Galapagos. It was dark outside and I had missed the grayline. I then left the radio on 21.300MHz and within a few minutes I heard **HC8LUT** coming up out of the noise and peaking at 5x5. I fired up my exciter 5kHz up and he gave me a 5x5 also.

I found 30m very active with **JA+VK** so took a look at FT8 and logged Mauritania **5T5TI** sending him a +10dB report and receiving -1dB. Worked **HH2AA** on 20m SSB and I note that this guys transmitter is in Haiti while he works remote from New York. Ran DXScape stats on **HC8LUT** and concluded that they were falling out of the scratcher around 13:00z. Sure enough they came up on 7.175 MHz at 13:15z. Not a great frequency for EI at this time of the day. Not too pushed on SSB pileups for various reasons including deliberate QRM. I find it much easier to work DXpeditions using CW. I generally find a gap in the pile and wait for the DX station. DXpeditions can be creatures of habit and work the same frequencies +/- a few KHz so I used dxscape to check their last known 20m frequency which was 14.195MHz. I left the radio on this freq and went about my business. 30 minutes later I worked them simplex on their CQ. Another station that I was on the lookout for was **XF1IM** Iota NA- 078 Island Magdalena but not a dit or a dah could I hear from them. Their signal was being heard from USA midwest to Hawaii according to the Reverse beacon network (RBN) with nothing heard this side of the pond. Conditions not wonderful but managed to work **V5/ DK1CE** barefoot on 30CW.

Spring mornings brought lots of **VK** stations long path on 20m. Worked **5T5TI** simplex on 15m SSB. He was going unanswered for long periods. I was delighted to work Larry **DU3LA** (Philippines) on 30m CW , we exchanged a 559 report. Larry was previously active as **VQ9LA** from Diego Garcia. Landed **TI8II** (Costa Rica) on 20m SSB. Worked **HH2AA** (14.013MHz) barefoot on the backup homebrew hexbeam practically 3m above the ground. Bagged **HC8LUT** (IOTA SA-004) on 18.135MHz during the grayline.

The 40m band can bear fruit during spells of poor propagation. I worked the Antarctic German Neumayer Station III callsign **DP0GVN** with 50w into my 2 el beam on JT65. I sent -16dB and received -10dB.

Worked **AU2JCB** which is a special event callsign to commemorate the birth date of the great Indian scientist Acharya

Jagadish Chandra Bose who pioneered the investigation of radio and microwave optics. 12m appeared to be dead only to find some of the NCDXF CW beacons on 24.930MHz alive and kicking. I could easily hear the 100w transmission from the **ZS6DN** (South Africa) beacon. To my amazement I could hear the second sequence of dashes which are a 10w CW transmission from **LU4AA** (Argentina). Just proves the band is well open but just no activity. I also heard the **4X6TU** (Israel) and **YV5B** (Venezuela) beacons on 21.150MHz. Switched to 18.110MHz and heard **4X6TU** on its 1 watt transmission, **OH2B (Finland)** + **CS3B (Madeira)** 1w, **LU4AA** 10w ,**OA4B (Peru)** 1 watt, **YV5B** 1w and **4U1UN** (United Nations New York). The only transmissions I could receive on 14.100MHz were **CS3B, VK6RBP** (Australia)**, YV5B** and **4U1UN** which was as weak as a hungry kitten. When conditions are really good its not uncommon to hear these beacons on their final transmission of 100 milliwatts. Keep a listen out for the beacons folks as its a live event and a great test of propagation. I normally avoid 40m SSB due to the noise, DQRM, whistlers, inconsiderate tuners and bad mannered band policemen but saw **KW7Y** spotted on the cluster. I turned the 40m beam out to the Northwest and nabbed Paul on Camano Island which is located in Washington State West Coast USA.

40m after teatime and in the dark hours can keep the circuitry warm as I worked **5T1R** on 40m SSB. His QRG was mental so he eventually started listening up 5KHz on 7.170MHz. Most of the pileup were transmitting on 7.170MHz so I transmitted on 7.169.930MHz and got him in the log after a few calls. This trick sometimes works as the DX station struggles to pick out a call but can hear a station very slightly off frequency. It works pretty well on CW if you transmit on the edge of the announced split frequency i.e. slightly further up or down.

I like to operate sometimes late and night and into the early hours so at 23:20z I came across **9M2AX** on 80m CW. The operator was calling NA only but many EU stations continued to call over and over again. I sat it out for a few minutes and waited for him to call QRZ which he did within a few minutes. I worked him on my second call with a report of 579. I then noticed alot of activity on my bandscope around 3.504MHz. Tuned down slightly and heard **3B9HA** (Rodriguez Island) calling CQ up 1. My luck was in and I got him within a minute for yet another new DXCC on 80m. My antenna for this band is simply an Inverted V with the apex at 16m. I installed 2 quick disconnect links which give me 3 resonant sweetpoints 3.510MHz , 3.650MHz and 3.790MHz therefore no tuner required. Junior op is now trained up on this procedure except on frosty nights !!.

VK/ZL is a constant on the bands despite conditions. I listened to **ZL3JAS** 20m longpath. New Zealand the birthplace of famous explorer and mountaineer Sir Edmund Hilary with 5% of the population human and the rest are animals !! I was on the lookout for **KH2/AC2BF** in Guam and saw him spotted on 20m CW simplex. I couldn't compete with the power being used on 20m but followed him to 30m. He was simplex again and the pileup was atrocious. In the meantime I took a look at 30m FT8 to find it was inundated with JA. Worked **JL1SAM** to check the state of the ionosphere and he gave me a -11dB report, I sent him -09dB. I then got lots of calls from **JA** but don't fancy spending my spare time sorting out QSL cards so high tailed it out of there announcing QSL only via LOTW. I was just about to QSY and I noticed Charlie **VR2XMT** calling me on 30M FT8. Charlie is a good old skin who I worked many times before all across the spectrum so I sent him -23dB and I received -17dB, not bad for 50 watts on the 30m Inverted V. He lives in a tight space so does most of his HF work with the now very popular Hexbeam. Got a nice followup email from Charlie asking for confirmation via LOTW which I duly obliged as he needed it for some award. Worked **VK9VKL** (Christmas Island OC-002) on 15m FT8, 50 watts into the 3 el SteppIR. I worked him in early Oct 2017 on 10m FT8. Poor discipline has now crept into FT8 as stations won't give you a chance to finish the QSO although Cliff (**VK9VKL**) who is a relatively new operator will stick it out to the end of the QSO despite interference. He is now using a lightweight 3 element yagi donated to him by the Cocos Keeling Island DXpedition.

Chagos Island or Diego Garcia **VQ917JC** is a good catch on HF as I worked him on 20m CW. We didn't have a rubber stamp QSO and exchanged a few station details.

Went back on 80m FT8 before shutting down the station and worked **TF3DT** Iceland ... one of the few countries in the world that doesn't have any rail system. If you go there don't bother with an umbrella because the rain comes in horizontally. My 80m signal was being heard as far away as Hong Kong **VR2BG** Locator OL72bi Frequency: 3.575.264 MHz (80m), FT8, -14dB Distance: 9814 km bearing 52° from EI Land. Yah couldn't beat that with a blackthorn stick!! There is hope for us yet. Just as I was shutting down the equipment I heard **RI1ANO** (South Shetlands) on 10.105 CW with an incredible S9+. I previously worked Alexandro on the Bellingshausen Base located on King George Island IOTA AN-010 but couldn't resist giving him a quick shout.

RI1ANO (Alex on the South Shetlands) has put a lot of time into melting the ice as I was receiving him -02 on 80m. Worked before but noted that he was CQing unanswered for long periods. He is very active on all bands so now the South Shetlands are not so rare anymore.

20m is the work horse band during the low sunspot minimum. I couldn't hear any CW stations so gave out a CQ call but to no avail. I checked RBN and my CW signal was being heard all over Scandinavia down as far as Switzerland. I took a look at 14.074MHz and it was busting at the seams with FT8 transmissions. It looks like the grey squirrel is in town to wipe out the red squirrel !! Glad to report some nice CW activity later in the night on 40m. Decent signals coming out of South America. Most of the contacts were rubber stamp 599 exchanges but had a decent ragchew with **LU7YS** in Argentina whose Navy was founded by William Brown, from Foxford, Co. Mayo. Things quietened down on 40m so I shifted down the band and was delighted to work Bob **VP8LP** (Falkland Islands) for a new DXCC on 80m.

20m CW bore great fruit from time to time logging **ZL3LF** exchanging a 5x5 report each way via short path**.** The radio is such a wonderful educational tool. The Maori word for New Zealand is Aotearoa which means "Land of the Long White Cloud" . I was ear wigging on a VK station talking to a ZL and they were discussing the Atomic Energy Act of 1945 which allows ZL high schools to hold one pound of uranium and one pound of thorium for conducting nuclear experiments. When I was in school we weren't even allowed to ignite the bunsen burner without the teacher standing over us !! .To my amazement I heard a station on 20m SSB with a "roger bleep" at the end of his transmission. This brought back some old memories CB days. Logged **ET3AA** on 17m SSB which is a club station from the Addis Ababa University, Institute of Technology. My 20m bandscope was wall to wall in the digi section with a RTTY contest.

My favourite time for the radio is sunrise particularly in the Spring. The 20m long path to VK/ZL can be a great start to the day. One morning I put out a CW CQ VK/ZL and oddly enough an Italian station came back to me!! I gave him a report and put out a long CQ for VK/ZL but a DL replied to me even with my antenna on the longpath?? Conditions very good on this particular morning as I heard all continents by 08:30z.

The 17m band is another old favourite of mine so nabbed **VI70HI** near Alice Springs Australia on RTTY**.** This is a special callsign commemorating the first Australian National Antarctic Expedition to Heard Island in Dec 1947. This activity is from mainland Australia OC-001 and **NOT** from Heard Island. I had a ragchew on 20m CW with Andrey **VK5MAV.** I sent him a 579 and received a 569. No discernible difference in long or shortpath at the time of the QSO. He explained to me that we were in the middle of his turnover between long and shortpath which normally lasts approx 30 minutes.

During March I then heard the boys down on the Soviet Vostok Base in the Antarctic callsign **RI1ANC**. I worked them previously on 20 CW but as their call was going answered I gave a shout in to test the water between Ireland and Antarctica. It was Alex on the key and he reported the local temperature to be -31°C with a windchill factor making it feel like -38°C. The base is 3,489m above sea level and holds the record for the lowest natural temperature ever directly recorded at ground level on Earth -89.2 ° C at the Soviet Vostok Station in Antarctica on July 21, 1983 by ground measurements.

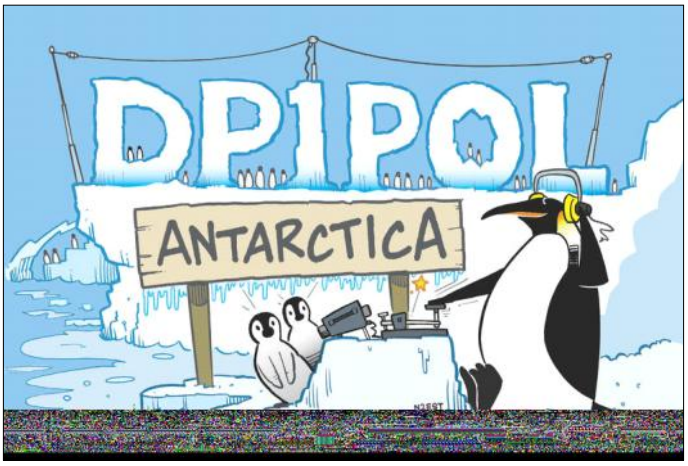
Ireland suffered from a lot of stormy conditions over the Winter and early Spring. My telescopic lattice mast spent most of this time in its nesting position of approx 7m. Not ideal but still cable of working some DX. Logged Dave **3V8CQ** on 18.092MHz, very strong signal 599+ from Djerba Island Tunisia. Nabbed Andorra **C37AC** on 17m CW. Worked **HS3NBR** in the Yala province of Thailand on 14.045MHz CW. Decent conditions to the far east / Australia. Worked **VK5MAV** on 14.035MHz CW.

With the solar flux index hovering around 70 for most of the winter/spring I worked **YB0AR** on 40m SSB. I saw **Z23BF** Zimbabwe spotted on 40m CW. I quickly went to his freq and listened for a while. It wasn't **Z23BF** but **Z32BF....**big difference between Macedonia and Zimbabwe. I heard one station after another sending reports to **Z23BF** in other words they were working the SPOT and not the call being sent. I worked him and had a small ragchew. I sent his proper call at the start and end of each handover between us but stations from Southern EU continued to work him as **Z23BF**. I even put up a cluster SPOT for **Z32BF** and they continued to work and SPOT him as **Z23BF**.

I love to hear the West coast of USA on 20m. Sometimes you won't hear a squeak from the East coast but the West will be awake. I listened to the USS Hornet Amateur radio club callsign **NB6GC** in California ragchewing with USA stations only. I hadn't a hope of getting through the pile. I got a tipoff from Declan **EI6FR** that another Antarctic station **DH5CW** from Neumayer Station III was on 30m. He was working simplex and peaking 599 with me so a few calls later and he was in my log. Neumayer Station III counts for AN-016. This bad boy would have got away from me because at first glance I would have said he was a German station.

I was on the lookout for Jim **VQ920JC** on Diego Garcia Island homecall **N9DM.** I tried for a while to work Somali **6O6O** on 17m SSB but couldn't make it through the SP filter. Poland appeared to have a great path to Somali. I saw a 15m SPOT for **6O6O** so I went to 21.023MHz. It is very important to listen first for a while to get the gist of things. Turned out that he was calling North America non stop with no answers. Plenty of EU operators going back to him - I still haven't figured out this phenomenon. Could it be a geography or language problem ? Worked Hawaiian station **KH7XS** on 40m CW. This was an easy contact as both of us were in grayline.

Heard **6O6O** going steady on 20CW with NA only. This of course leads to bad EU manners with deliberate QRM , band police etc.



Took me about 20 minutes to log **6O6O** on 17m RTTY. I was happy with this QSO as there was big competition on the band with a huge split and pileup. I could also hear them on 40m CW @14:00z. Didn't even try as they were low in signal strength at about 539. Came across them again on 40m CW later that night. The operator was blowing smoke at around 37 wpm. The split was large and unruly so listened for a while longer. I padded down VFO2 receive by -18dB and also knocked off preamps. This left VFO2 much quieter and within a few minutes I got **6O6O's** pattern. A few calls later and I had him in the log and also an instant Club Log update.

I was lucky to catch **DP1POL** on his CQ before he was spotted. Exchanged a report and sent greetings from the Emerald Isle. This is an interesting research station and worth a google. **DP1POL** is located at the German research station "Neumayer III" in Antarctica on the Ekstroem Ice Shelf, about 1,300 miles North of the South Pole.

I also worked **DP1POL** on 20m FT8 using 50 watts into the 3-el Steppir. Super conditions at times between EI and Antarctica. I sent him a +08 and received +13.

Worked **DP1POL** on 40m CW before closing the station down one night, exchanged a 599+ with no fuss. Couldn't resist trying the special event callsign **RI50ANO** from the South Shetlands on 30m PSK31 and glad to log him with the 3rd call using 50 watts into the 2-element beam.

I was thrilled to work **8J1RL** on JT65. This is the Japanese Antarctica Research Station located on East Ongle Island, Dronning Maud Land, Antarctica IOTA AN-015.

I battled hard on 160m for a couple of new countries, I heard **E20MDN, VU2BGS, JT1BV, ZC4A, Z60A + HS1NGR** but no joy.

Worked Mongolian station **JT5DX** for a new country on 160m. Couldn't have done it without the K9AY receive antenna as the band was hectic with competition stations in each others ears. The receive antenna allowed me to null out unwanted stations. Luckily this year my farming neighbour was resting the 6 acre field behind my house so with his permission I deployed the K9AY receive antenna approximately 100m from my antenna farm. This was a superb move as I could hear the grass growing as far away as Australia.

Unfortunately the Bouvet Island operation was aborted as their ship developed a problem with one of its engines while at anchor waiting on a safe weather window to transport the DXpedition team to the Island. They were heading West for Chile and only making an average of 4 mph. The Captain then made a decision to turn about and head NE to Cape Town which was approx half the

distance to Chile. Most importantly was that everyone was safe and went to a lot of expense and time in attempting to activate the most remote and inhospitable Island on the planet. They limped to South Africa working maritime mobile to kill the long time at sea.

I often switch on main rig before work and logged the Big Island Contest Club **KH7XS** in Hawaii on 40m CW. The clubs new antenna system is a three high switchable stack of OptiBeam tribanders (94/56/26 feet), a 4-element 40m OptiBeam Yagi (84 feet) hence the strong signal into EU. The club station is at an elevation of 1100 feet above sea level and about 1 mile from the Pacific Ocean with a huge downward slope to EU/NA most of SA + Asia. The station is blocked to the South by the 13,500 foot Mauna Kea mountain. I had worked them before now on my 2-el beam so worked them this time on a low mounted Inv-V for 40m. I think if anyone needs Hawaii then its doable on this band from EI.

March also brought a night to remember as I worked my first JA station on FT8. I was listening on 1.909 MHz for JA and saw **JR1CAD** CQing. He had a reasonable signal -17dB so exchanged the same report with him. The exchange took a while as his signal disappeared but in fairness he stuck it out to exchange and acknowledge a report with me.

From time to time I saw **V85A** spotted from the country of Brunei. I was chasing him for a few weeks and heard him with his net controller **YB0AR**. No wind today at the QTH so raised the mast to its peak at 22m. Delighted to work **V85A** and exchanged 59+ each way. Brand new country number 261 for me on 40m. To be honest his antenna was doing most of the work as its is a 40m 4-el full-sized OWA yagi from OptiBeam. This is a monster beam with a boom length of 15m and longest element 22m with no traps required delivering up to 13dBi of gain with a front to back ratio of 21dB. Only problem is this antenna comes in at a price of 4,799 euro + shipping!!

On 40m SSB I spoke to Olavur callsign **OY1OF** on the **Faroe Islands EU-018** which is in the heart of the Gulf Stream in the North Atlantic at 62°00'N. The Faroe Islands lie northwest of Scotland and halfway between Iceland and Norway.

The photo at the top of the column is the beautiful location for the **OY6BEC** 6m, 4m, 70cm + 23cm beacons.

Conditions excellent to the Far East on 20m CW logging Lee **DS4EOI** in South Korea. He was 599+10dB and just passed his radio site inspection to allow him to use 1kw from 160m - 6m.

The Island of Montserrat makes the odd appearance on the bands as I logged **VP2MSS** on 40m CW. The Chances Peak eruption (Soufriere Hills) in 1995 was the first time the volcano had erupted for three hundred and fifty years. The island of Montserrat is a British Overseas Territory and suffered from Volcanic eruptions which occured again in June 1997, July 2001 and July 2003.As a result of the volcanic activity, Plymouth, the island's capital, became uninhabitable and was abandoned. Following the volcanic eruptions, many people left Montserrat moving to other Caribbean islands, the USA and the UK.

Worked **7Z1IS** in Saudi Arabia on 15m SSB. It is the largest country in the world without a river. There is a contemporary Saudi legend that when Winston Churchill was determining the boundaries between Saudi Arabia and Jordan, he hiccupped from too much brandy; his hand slipped, and he bequeathed to Saudi Arabia several thousand square kilometres of not very valuable Jordanian land. This tract of land has become known as "Winston's Hiccup.

I worked Rotuma Island OC-060 **3D2EU** on 30m CW. It is the birthplace for the great Cork hurler and sportsman Seán Óg Ó hAilpín. His father was an oil-rig worker and a native of Fermanagh in Northern Ireland and his wife Emilie a hotel worker and a Rotuman. The Ó hAilpín family moved from Australia to Ireland in 1988 and settled in Cork where he went on to win various titles throughout a wonderful sporting career.

Logged Easter Island **XR0YD** on 30m CW. Delighted with this new country on 30m as the beam was nested at only 9m for the poor weather.

Easter Island, a Chilean territory, is a remote volcanic island in Polynesia. Its native name is Rapa Nui. It's famed for archaeological sites, including nearly 900 monumental statues called *moai*, created by inhabitants during the 13th–16th centuries. The *moai* are carved human figures with oversize heads, often resting on massive stone pedestals called *ahus*.

The 4th March was a crazy day on the radio and a very good test for the Hexbeam. Started off by logging **VU4G** Laccadive Island on 30m CW using the 2-element beam. Tried for about 20 minutes to work **3C3W** on 20 CW but threw in the towel due to DQRM and general bad manners on his frequency. At 17:45z I nailed **3C3W** within a few calls and went for the spuds.

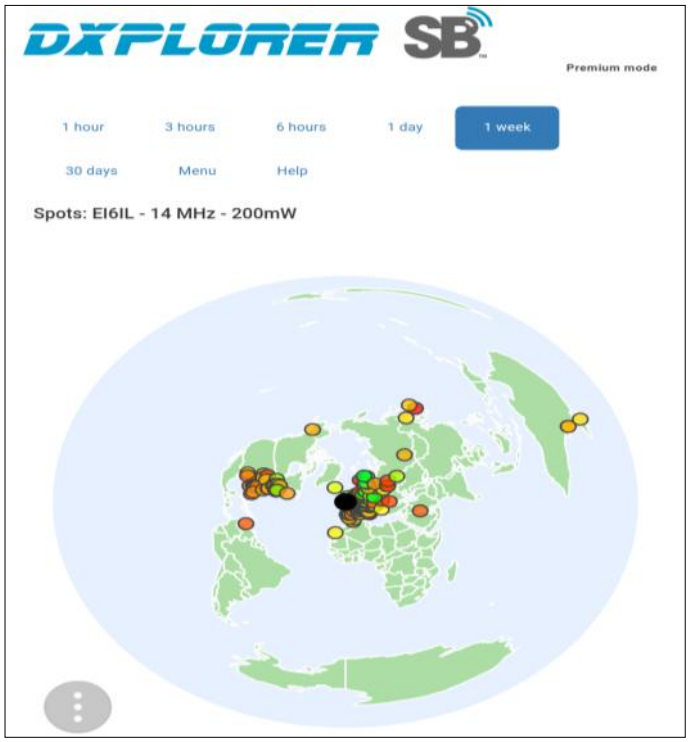
19:14z I sat back in on the wireless at took a snoop across 20m CW. I saw Rotuma Island OC-060 **3D2EU** spotted on 14.006 MHz. I nailed him with my second call. The timing was spot on between **EI** and **3D2** so I logged him with a genuine 579. I put out an alert to the groupies and heard **EI6FR** going back to Rotuma with 100 watts. I listened for a little longer and his CQ was going mostly unanswered apart from the odd G station. Its simple " EU was in darkness and he could only hear the western fringes" with Portugal/Spain being our biggest competitor. No fear here as our good friends in Portugal would be just back from the beach and sitting down to the spuds from 7 - 11 pm. Sometimes you feel hard done by southern EU, but not tonight.

19:24z QSY'd to 17m CW coming up to the end of the grayline. I was again surprised to hear Cadbury Egg Island **XR0YD** belting in practically begging for a call so I duly obliged by logging him and passed on the word to the EI DXers.

19:41z Got another surprise when **XR0YD** popped up on 20m RTTY. Small pileup as he again wasn't hearing much of EU so logged him within a few minutes just 1 kHz up from his frequency.

Overleaf is a screenshot of the WSPRlite transmissions over a one week period in April showing a hit in VK at midday.

Got a tip-off from Declan **EI6FR** that **XR0YD** were breaking the door down on 40m CW the early morning around 05:00z so got up



early and logged them barefoot on 7.031 MHz at 05:15z. Logged Spratly Islands **9M0Z** and **5X2B** also on 40m CW.

Chris, **ZS6EZ** and well known DXer James, **9V1YC** were QRV as **9M0Z** from Pulau Layang-Layang in the Spratly Islands which are a disputed group of islands, islets and cays and more than 100 reefs, sometimes grouped in submerged old atolls, in the South China Sea. The archipelago lies off the coasts of the Philippines, Malaysia, and southern Vietnam.

March 24th switched on the main HF rig at around 07:00z with no sign of the Irish DXers in Malawi **7Q7EI**. One of the most exciting aspects of the hobby for me is working **EI** ops in foreign lands. I always take a special interest in these operations given that these folks give up their own time and money to travel far and wide to possibly give radio hams new country. I saw them spotted on 15m around 07:30z but nothing on my receiver. It was a little early so I left the radio on their frequency, 21.238 MHz. Sure enough, I heard their signal building slowly and worked Alain **(EI2KM)** who was running a pileup for the WPX contest. Exchanged a quick hello and was delighted to log them.

Later in the day I logged **7Q7EI** on 20m SSB + CW, 17m SSB, 30 CW and just before the *leaba* 40m RTTY. Other stations worked that day were **Z62FB** on 20m SSB and **TJ2TT** on CW. Also logged Nigel **3B8XT** this time on 30m CW. Last station of the day (early morning) was **TJ2TT** on 80m CW. That was a good days operating with some fine DX worked.

The following few days saw a lot of cluster spots for **7Q7EI** on 12 and 10m but could just make out a syllable or two on 12m with nothing on 10. They were flying in on 15 SSB working WPX and had long periods of unanswered calls. Decided to monitor 24.935 MHz for a while as sometimes 10 + 12m would have only a 10 min windows of good propagation at this time of the sunspot cycle. The wish came through as I heard their signal improve around 14:00z. Gave them a few calls at 14:30z and got into the log for 12m SSB. Logged **Z81D** in Southern Sudan on 17m SSB.

March 27th I got a few notifications during the day on what bands the Malawi bravehearts were on so when I got home from work I had them logged on 17m CW within jigtime. Lots of EIs got into their log as they were putting out a decent signals on most bands.

Came across the Eureka club callsign **VY0ERC** on Ellesmere Island NA-008 in Nunavut Canada. The club is located in the environs of the Eureka Weather Station at 79 degrees 59 minutes N, 85 degrees 56 minutes W. **VY0ERC** was operational from the Polar Environment Atmospheric Research Station. The RidgeLab is set on top of the hill at 80 degrees 3 minutes N and 86 degrees 25 minutes W at 600m above sea level. See photo above.

The **7Q7EI** *craic* continued into the dark hours when Doug **EI2CN** called me to say they were on 20m RTTY. I quickly fired up the rig on 20m and worked them barefoot at 22:00 local time. They had a great opening to EI at this time and the word spread quickly throughout the Emerald Isle. I took a spin down to 40m CW and worked them at S9+20dB. I took another look at 20m and saw they were still ramping into EI at 23:30 local time.

7Q7EI caused a good stir on the bands where I logged them on 15 and 12m CW within a few minutes. 12m was most interesting as their signal rose from S0/S1 to S9 for about 1 minute. It was like switching on a light. Their signal sat back down at around S5 for a long period.

Worked **VD1BOOM** from Bell Island Lighthouse NA-198 running a simplex pileup on 14.250 MHz. I was curious about the unusual callsign so on further investigation it turned out to be a 40 year commemoration of an explosive phenomenon on Bell Island, Newfoundland in 1978 that electrocuted livestock, melted power lines, and produced floating orbs of fire? Enough energy was released that day to set off the American nuclear test watch satellites, and weapons researchers from the Los Alamos National Laboratory soon showed up at the site.

The **7Q7EI** DXpedition hung up their boots around 15:00z. Hats off to all the crew who again flew a great flag for Ireland. They lads managed to keep the show on the road under I believe poor mains to no mains electricity, thunderstorms, foul weather and broken antennas. We look forward to a report of the trip. Congrats to a total of 82 EI callsigns who made it to their log and especially to Keith **EI5KO** who worked 7Q7E I for his 100th entity.

I was on the prowl for **3B7A** on 80m. Came across him with a huge pile so dug the heels in and found a "reasonably" quiet frequency. I parked the bus a few kHz up from his QRG and sat in the long grass. I got lucky and worked him after approximately 30minutes. I listened to him as he scooted over my frequency three times. It appears evident now that the bands are full of skimmers!! As soon as you give the 599 report then you get it in the neck and sometimes it makes it difficult for you to complete the exchange.

April 11th brought poor HF conditions due to a G1 minor geomagnetic storm watch issued for 10 and 11 April 2018 due to the arrival of a negative polarity coronal hole high speed stream. A geomagnetic storm is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange

of energy from the solar wind into the space environment surrounding Earth. The solar wind conditions that are effective for creating geomagnetic storms are sustained (for several to many hours) periods of high-speed solar wind, and most importantly, a southward directed solar wind magnetic field (opposite the direction of Earth's field) at the dayside of the magnetosphere. This condition is effective for transferring energy from the solar wind into Earth's magnetosphere.

This was quite evident as **3B7A** would pop up on 15m CW and peak S9 for sometimes less than a minute. It was like a light switching ON/OFF. While the storms create beautiful aurora, they also can disrupt navigation systems such as the Global Navigation Satellite System (GNSS). Another problem is that harmful geomagnetic current is induced into the power grid and pipelines.

These geomagnetically-induced currents cause the exciting current in power transformers to operate out of their designed range, resulting in saturation of the magnetic core material inside the transformer. Once the core saturates, the transformer no longer provides any back EMF (electromotive force) so the current and voltage in the windings become abnormally large. This can lead to heating of the surrounding structures due to induced 'Eddy Currents' which has the potential to damage parts of the transformer.

Worked **VE7ACN/VE2** on Harrington Island IOTA NA-084. The Canadian Island, named after Charles Stanhope the 3rd Earl of Harrington, is home to approx 250 people and was founded only in the 19th century by fishermen. It is known locally as Hospital Island from its earlier role as a medical centre for the area. It is a small island with a landmass of only 1.97 km^2.

I have followed with interest an Australian licensed operator Andy, now on many of his solo IOTA exploits. His latest solo DXpedition callsign **VK5MAV/9** was of great interest to me. For the first time in twenty years he activated Cato Reef IOTA OC-265 off the coast of Australia. He writes that "adventure is worthwhile" and he quotes the great American philosopher Ralph Waldo Emerson who wrote "Do not go where the path may lead. Go instead where there is no path and leave a trail" This sums up well some of the strips of remote Islands he has activated.

I was surprised to hear **VK9X/N1YC** so strong on 40m CW at 17:37z. I had him logged on the 2nd call. Luck of the draw, I suppose.

Sri Lanka has become very workable due to in particular **4S7AB.** I logged him on 40m CW for the first time. Kamal now has a great signal in EU with his new homebrew 40/30m cubical quad. Wilbert **PE7T** and Jim **9V1YC** did a great job on air from Christmas Island. I was on the lookout for them on 80m and was delighted to log them in daylight at 19:17z on 3.524MHz. I was

Bouvet team maritime mobile QSL card

chasing them on 80m for a few nights and noticed that their signal degraded rapidly as it got dark!! I was stepped on by the pileup but the operator stuck with me giving me many repeats until we completed a solid exchange.

With our extended daylight it gives operators some time to sit down after the spuds and work some DX and DX there is. The only problem is it doesn't come looking for you – it is entirely up to oneself. One can sit around and mope about band conditions or get stuck in every now and again.

At the time of writing Declan was leading a mini DXpedition, callsign **EJ7NET,** to Inisheer EU-006. Initial indications were poor conditions but the food, beverages and fun made up for it. I logged them on 80/40/30+20m

Get on the bands folks and get the most out of the hobby.

73 for now

DE EI6IL AR

The following will give you an idea of the stations I logged over the last few months during the solar minimum.

160M – PZ5RA, J79WTA, KK4WX, UA9CR, RA1OW, JW7QIA

80M – TY7C, 3C0W, TN5R, ES100U, 3B8XF, TJ2TT, 7Q7EI, OH2YL, XT2AW, Z66D, VK9X/PE7T, EJ7NET

40M - VU4G, Z68M, 3C3W, 9M0W, XR0YD, 5X2B, TY7C, TN5R, 9Y4/UA4CC, 3D2EU, PJ2ND, 3C0W, ES100R, Z62FB, TJ2TT, PJ5/SP2GCJ, XV9BG, ES100C, R3AP, 7Q7EI, E74X, 9M2PUL, 3B8MM, VD1BOOM, 3B7A, VE2/VE7ACN, Z66D, VK9X/N1YC, 4S7AB, E20AX, Z61KR/P, C96RRC, C98RRC, DP0GVN, C8T, PW2SAF, HB0/PH0NO, OY1R/MM, EJ7NET, RA/EI6DX

30M – VU4G, 3C3W, 3D2EU, RI50ANO, 9Y4/UA4CC, 9M0W, ES100O, JH7JVJ, C31CA, TY7C, TN5R, XR0YD, 3C0W, PJ5/ SP2GCJ, TJ2TT, OH0JV, 3B8XF, 7Q7EI, XT2MAX, C93PA, Z32ZM, JR8NOD, VR2VAZ, R20ARRS, VE2/VA7XW, 3B7A, Z66D, VK9X/N1YC, FJ/N0KV, 5W1SA, AH7C, ZL2IFB, 4X70I, 5W20SAMOA, C8T, Z68AA, EJ7NET

20M – Z68M, XR0YD, H72DX, 3C3W, 3D2EU, TY7C, TN5R, 9M0W, 3C0W, Z60A, 9Y4/UA4CC, TJ2TT, 9M2YDX, 6W/ SP2GCJ, VP2EGO, PJ5/SP2GCJ, 3B8XF, XT2MAX, 7Q7EI, Z62FB, VY0ERC, TI8I, Z68BG, VD1BOOM, 3B8/F4BKV, HC2AO, VE2/VA7XW, 3B7A, ZB2RAF, VE2/VA7ACN, NT2A, Z66D, VK5MAV/9, VK9X/N1YC, J88PI, PY6BA, FJ/N0KV, 5Z4/LZ4NM, XV1X, OD5TX, XQ6CFX, E20AX, ZV7COM, KD7RF, DU3LA, RI1FJ, ZX7COM, C96RRC, TI2CDA, 4X4FR, 3F6IC, XE3R, C98RRC, C8T, A66A, 6WQPZ, JY5MM, EP3CSZ, TM5FI, 3B9RUN, EH1EH, Z64EEF

17M – 3C3W**,** XR0YD, TY7C, Z2LA, XR0YD, TN5R, TY7C, 3C0W, 9M0W, TJ2TT,PJ5/SP9FIH, ZS6DJD, 7Q7EI, Z81D, HS8JCV/8, XV1X, XT2MAX, 4S7JKG, 3B7A, Z66D, FJ/N0KV, 3B8MB, DU1/JH1FNS, PY5QW, V47CDC, C96RRC, C8T, ZP5DA, C98RRC, 3B9RUN, XQ6CFX

15M – 3C3W, VU4G, 3C0W, XROYD, TY7C, TN5R, TJ2TT, PJ5/SP9FIH, 7Q7EI, XT2MAX, XQ6CFX, 3B7A, 3B9RUN

12M – TN5R, 3C0W, TJ2TT, 7Q7EI, 3B7A, PP5EJ, C31MF

10M – Z64EEF, D41CVS

Did Joe Taylor K1JT Destroy Amateur Radio?

Kirk Kleinschmidt NT0Z *nt0z@stealthamateur.com*

This thought-provoking article originally appeared in the February 2018 issue of ***The Spectrum Monitor****. Reprinted with permission of the author.*

Did Joe Taylor K1JT, Nobel Laureate and noted friend of hams everywhere, accidentally destroy amateur radio?

Having just returned from a trip in my time machine, I can unequivocally say that history attributes the death of amateur radio to Joe Taylor in the year 2017. So, yes, he did. In fact, 2018 AD marks the beginning of the "hampocalypse," and becomes known among former ham operators as 1 AT (the first year "After Taylor").

The distinguished scientist had some help, of course, but just like the "flu" epidemic of 2027 (you'll see), in which an attenuated pathogen that was only supposed to be experimental in nature escaped into the population at large and quickly replicated itself, Taylor's FT8 digital mode grew exponentially, suffocating other modes as it mushroomed beyond any practical limits.

By the time FT9 and FT10 were released - modes that allowed a small amount of real -time interaction (formerly known as conversation) - it was too late. Hams, the few who remained, refused to exchange personal pleasantries, focusing instead on machine-verified signal reports and grid square exchanges.

In 2 AT, non-machine QSOs were outlawed and rules prohibiting unattended operations at HF were rescinded worldwide. Amateur allocations were reduced to 5kHz-wide slices every 2 MHz (from dc to daylight) so computerized stations could map optimized frequency-hopping and ALE schemes in real-time. With machine-only modes, additional bandwidth was simply wasted. The CQWW contest (renamed the CQJTWW contest) was the first major outing to offer certificates to operators who didn't even know that their computer-controlled stations had participated in the contest and had turned in noteworthy scores - the ultimate in unattended operation!

By 3 AT, AI-driven networks saw that humans were completely unnecessary for contesting and propagation mapping operations, so amateur services were disbanded worldwide. An AI from Italy, rumored to be running an illegally "high-powered" FT11 beta processor, worked DXCC in 478 milliseconds, the fastest to date. Also of note, once occupying 48 hours, the CQJTWW contest, now worked only by competing AI participants, has been reduced to 8.5 seconds, freeing the contestant AIs to map additional ionospheric sub-modalities.

In an attempt to recreate a "freeband-like" clandestine radio system that allowed human-ham interaction on a personal level, some former amateurs began experimenting with gravity-gradient modulation and quantum entanglement transceivers - technologies that don't require, or even benefit from, FT8, FT9, or FT10 style restrictions (well, maybe FT10).

I'd like to share more, but my time in the future was limited by the power constraints of my device. If you have access to a more powerful time machine, please tell us what happened next.

Irreverent, but Not Necessarily Irrelevant

Yes, my fictional narrative is sassy and irreverent but, unfortunately, it's probably not irrelevant. The number of global QSOs using Joe's FT8 "machines only" digital mode have exploded, and these effects can clearly be felt on the bands.

Although I didn't know exactly why at the time, my first exposure to the JTxx/FTxx effect was during last summer's E-skip season on 6 and 2 meters (or lack thereof). The two previous years saw plenty of SSB and CW QSOs, with a nice increase in the typical number of non-contest CW QSOs. I was working on my VUCC totals and things were looking up.

In 2017, however, traditional activity tanked. There was nobody home. I didn't know it at the time, but everyone was JTing and FTing when I was looking the other way. The lack of SSB and CW signals wasn't simply noticeable, it was incredible. And just last week I went looking for PSK31 signals, as I had been "away" from that mode for quite a while. In short, there were none. Yikes!

Several months ago columnists in CQ and QST began detailing the magnitude of the paradigm shift. I was somewhat sceptical at first, but no longer.

What Hath Joe Wrought?

In a recent ARRL Letter, expert observers note the explosive growth of FT8 QSOs and the commensurate decline of just about everything else. So far, K1JT has publicly expressed surprise about how quickly his new digi-modes have taken off. But, perhaps like Robert Oppenheimer, who grew to feel quite despondent about creating the atom bomb after the devastation in Japan, I wonder how K1JT might feel if his creations become "apocalyptic?"

Most coverage of K1JT's software creations and contributions to amateur radio's technical art have focused on the technical merits alone - which is a no-brainer. Joe's WSJT-X software suite is a bona-fide technical masterpiece.

But I'd like to take brief look at the potentially broader implications of what might happen to amateur radio as a whole in the wake of a globally disruptive event like FT8. My apologies to Mr. Taylor, as I find that equal measures of sass, exaggeration, and irreverence are good tools to highlight latent issues and spark debate!

I don't really think that FT8 will supplant all other aspects of ham radio, but the downsides of machine-only QSO technologies such as JTxx and FTxx may dramatically intersect with other issues facing amateur radio as a whole. So, let's pick off the scab a bit and dig in (in no particular order).

Hams Aren't Talking Anyway

Our individual experience of amateur radio - and most everything else - is built upon our accumulated experiences, and often seems to "stand still" or "remain the same," or mostly so. But nothing really stays the same, and everything is constantly changing. The "change delta" - the apparent speed of change - is noticeable mostly when we experience jarring, disruptive change, such as 2017's "JT explosion."

With the benefit of hindsight I can see that I have been a part of the problem. As a teenage ham in the '70s who didn't have a Callbook or even a CW filter (let alone an Internet or a packet cluster), I happily sent my full name and address via slow CW to the other ops during most CW QSOs. We all did, because if we didn't, we couldn't collect QSL cards, which were required for all of the operating achievements we were all so diligently working toward! No eQSL. No LoTW. Just USPS-QSL!

Now, ragchews are still ragchews, if you can find them, but back in the day our

casual, quickie QSOs, even with DX ops, always contained pleasant, friendly remarks, and operator names and locations, even if they involved Q-signals and Morse abbreviations. Casual SSB QSOs were even "wordier" with pleasantries. Whether 73, 88, HPE CU AGN, TNX QSO, GUD DX, FB SIGS, DSW, TU, GL GD, etc, outside of established contests we didn't just grind out contest-style QSOs.

But we do today, and it's a blessing and a curse. Yes, more contacts can be made (perhaps a necessity now that machine-gun-style QSOs are driven by global packet spotting networks and year-long operating incentives such as the ARRL's grid-square thingy and CQ magazine's DX Marathon thingy), but a large measure of camaraderie and personal touches are lost. Unlike my early years, until recently I didn't have many voice-mode QSOs because I was living (13 years) in a condo and operating with stealthy antennas at QRP power levels. I didn't want my voice to be heard coming from someone's clock radio, but I was OK with Morse dits and PSK31 warbles, as those would likely be indecipherable by mere mortals.

It's tough to successfully, consistently ragchew via SSB while running low power to compromised antennas, and I discovered soon after my teenage years that I didn't really enjoy ragchewing via CW. Contest-style operating, yes. Conversing at length, no. I don't use any repeaters, and if I need to ragchew with my local ham buddies I will call them on the phone or chat in person at Saturday morning ham breakfasts.

I did do a bit of ragchewing via PSK31 a few years back, but even then I was met with an endless series of "brag files" and surprisingly little conversation! Even if the information in the brag file is interesting, it's still essentially automated if nobody's "talking." Now, PSK31 is a somewhat scarce, treasured memory...

Now that I have no practical antenna restrictions and can run power outputs up to the legal limit, I look forward to chatting via SSB - just as soon as I find a 100-W rig that I like as much as my Elecraft KX3 (or build an amplifier)! Even when I don't have to, I'm still running QRP. How many other excuses can I think of?

We are slipping toward a non-conversational ham radio future, and I seem to be part of the problem!

Do Kids Just Wanna WSPR?

These days, everything's about "the kids." Think of the kids who have to be driven to suburban schools in armoured SUVs, who have no opportunity to play with sticks along the way (walking) or splash around a bit in a mud puddle! The poor little buggers have to deal with "Nintendo thumb syndrome" and, because of it, many couldn't hold a stick in their cramped-up little hands anyway!

I'm going to step down from this soapbox before I get carried away (actually and literally), but someone is thinking a lot about kids, and that someone is the ARRL. The League has a massive "think about the kids" initiative underway, and it's ostensibly all about making amateur radio more accessible to the smartphone generation.

We can't properly address this issue here for a variety of reasons, but I think it's interesting how FT8-style operation fits in nicely with generations - new and old - of introverted hams who ostensibly joined a communications hobby, but don't want to actually communicate! Let me explain.

Newfangled digital modes such as JTxx and FTxx use space age encoding, modulation, and DSP/decoding techniques to eke out fantastic improvements in signal-to-noise ratios that allow radio communication over propagation paths that won't support SSB or CW contacts. That's the cool part!

The downside is, taking advantage of these techniques requires long "integration" times that preclude real-time communication. Most JTxx and FTxx QSOs require accurate time syncing and back and forth transmission windows from 15 seconds to several minutes. Limited bits of information can be transmitted back and forth, but there's no chatting allowed. That's perfect for sending data back to earth from deep space, which is where the techniques originated, but not so good for real-time communication.

The only thing that keeps the entire process from being completely automated is the often-ignored FCC rule that limits unattended operation on most HF frequencies and the fact that the software has a "send" button that has to be clicked in real time every now and then by the control operator (if that option has been selected in the setup menu).

K1JT's WSPR software (weak signal propagation reporter) is similar. Many ops run their WSPR stations unattended 24/7 whether it's legal or not. Because many WSPR stations run milliwatts instead of kilowatts, the effects are minimized, but the rules are the rules, right? I would rather be shot with a BB gun instead of a .44 magnum - but I'd rather not be shot at all.

WSPR, when done right, is an amazing tool that has already added to our understanding of global propagation science and practice. It's like a public, hi-tech chirp-sounder network that can map existing propagation modes and paths in real time, while uncovering details we hadn't even imagined. But WSPR isn't really a QSO mode because the integration periods are even longer than those for JTxx and FTxx, which allow for "limited" data exchanges. Still, among hams who don't really want to "talk" anyway – these new modes may be just what the doctor ordered!

I can imagine a youngster asking a parent about joining the local after-school "ham radio WSPR club."

"Mom, mom!" the excited child exclaims, "remember when we talked about ham radio, and you were concerned about me having to talk to strangers? Well, I just learned that I can now join the WSPR club and get on the air like we talked about - and I'll never have to talk to anyone, ever!"

"Well," says mom, with a bit of a wrinkled brow, "what about interfering with the neighbors, interfering with your schoolwork - and what about those big, ugly ham antennas we looked at?"

"That's the best part, mom," says the excited child, "WSPR uses tiny power, so it won't bother anyone. And because it uses super new technology, I won't even really need an antenna! Schoolwork will still be my main focus – after online gaming - because my WSPR box talks to my game system - and it tells me where my signals have been heard and posts them on the Internet!"

Mom, now starting to smile, says, "Wow, you've really done your homework, haven't you? But, what about getting your FCC license? Won't that be difficult?"

No way, mom!" says the still excited child, "My teacher says that, thanks to a new program by some organization called the ARRL, I can simply go to a class for three afternoons to get my WSPR license. There isn't even a test anymore. Cool!"

Far-fetched? I don't think so. If you look at historical trends, something like this seems almost inevitable. The ARRL, which seems to be switching to a kids first, "lowest common denominator" approach to everything it does, is pushing hard for increased HF privileges for Technician-class hams, for example, so they can take better advantage of digimodes and, hopefully, want to get further into the hobby by upgrading.

My sarcasm aside, a test-free WSPR-class license might actually make perfect sense (especially in middle school science classes), as long as we restrict WSPR operation (and power levels) to tiny slivers of little-used parts of existing bands (and there are plenty of them).

Is the drive to "save" amateur radio at all costs worthwhile? Does everything have to be saved and/or packaged so it's accessible to every kid, everywhere? By my standards, amateur radio license tests are already so easy to pass that they pose no barrier for the vast majority of potential applicants. I recently prepped one of my friends over a casual two-hour lunch, after which he went from civilian to General-class operator with no additional study. All without ever owning or using a radio or even keying a mic.

Taken to its logical conclusion, before long there may only be one license class - just like before incentive licensing! It took me years to fully understand that, for most things, we only truly appreciate things that require effort, time or money - or all of the above.

Modern kids are still investing time, effort, and money into the things that interest them. Video games. Coding. Software development. Hardware hacking. Dating. Boys. Girls. Bikes. Cars. Ham radio. What do you think?

Antenna Here is 6-Foot Loaded Dipole

Because of deed restrictions, etc, entire generations of hams have come up without knowing what it's like to operate with "real" antennas. I can no longer count the number of times newbies have asked me whether the small, expensive, portable antenna systems designed to be used by backpackers from mountaintops, are "good" for use at home in their backyards. Heck no, they're not good. They're horrible!

As highlighted later in this column, our antennas define our experience of amateur radio. Crap antennas equal crappy experiences overall. And while hams from my generation are dreaming about tall towers with stacks of big Yagis (already having real outdoor dipoles and loops), many newbies are dreaming about a too-low wire dipoles hidden in their backyard trees, or outdoor antennas of any type. And while they dream they're messing with what are essentially expensive non-antennas, and they're wondering why ham radio isn't so nifty.

These new hams are often surprised when I tell them that, if I could have a stack of killer antennas on top of a killer-high tower, I'd gladly trade my fancy new transceiver - any fancy new transceiver- for a 1970s Kenwood, Heathkit or Yaesu rig, which they view as anachronistic and completely useless. No questions asked. You can make up for a compromised radio, but you can't make up for a compromised antenna. Or can you?

Actually, if the machine-only aspects of emerging digital hamming can be addressed, the crappy antenna scenario can be somewhat mitigated by emerging digital technology. Technologies such as JTxx and FTxx offer 20-30 dB improvements over SSB and CW - and that's huge. Unlike the keyboard-to-keyboard digimodes such as PSKxx and MFSKxx, however, which allow conversations to take placewith a 10-20 dB advantage over SSB and CW, you're still mostly in the WSPR club.

Teeny Bands Are All We Need

The ARRL and other groups fight tooth and nail to preserve spectrum space, but if everything migrates to JTxx and FTxx style operation, ham bands can be tiny slivers of their former glory. Lots of digimode QSOs fit inside the space of a single SSB QSO, and because you often can't hear the signals with your ears, you have to hover around a calling frequency anyway, so who needs all that empty space?

No Need to Call CQ on Big Bands

Even if the ham bands "stay big," we wouldn't need to cluster around calling frequencies if we simply have our PCs coordinate our QSOs on the Internet before automatically switching our radios to the agreed-upon frequency so our PCs can work each other and tell us all about it.

By doing so we could easily limit our QSOs to a group of "whitelisted" friends, members of a certain ham club (rifle association, sports team, political party), or hams who have sent us "greenbacks" (Bitcoins?) for our rare virtual "QSL cards." DXpeditions might be quite profitable that way, and while your robo-transceivers are churning out QSOs, you can be fishing, swimming or surfing!

Between global spotting networks, the reverse beacon network, the WSPR net, IFTTT, and PSK Reporter, etc, we can already do most of these things with existing technology, so although I'm being somewhat speculative (and more than a little sarcastic), bringing amateur radio into the "digital digital age" isn't as easy as it once looked.

Toward an Uncertain Future

The future - where ham radio is going and what it's becoming - is a product of what exists now and what has already come before. Today's amateurs exist on the leading edge of a continuum that started (very slowly) a few hundred years ago with basic explorations of electricity and magnetism, but is rushing forward at an exponential pace.

This rapid evolution of technology in general isn't radio exclusive, of course, but it's still amazing to simply step back and take it all in. It's easy to "miss the magic" because we're surrounded by it every minute of every day. But even if we don't usually notice it, the technology train is barrelling down the tracks at an ever-increasing pace. Ham radio is also streaking forward and, in some ways, is approaching a point of no return - an event horizon from which there's no turning back.

Unlike the equestrian arts, for example, in which riding a horse under an English saddle is substantially the same today as it was 100 or even 500 years ago, ham radio isn't the same. Spark-gap transmitters have been duly outlawed and, save for a relatively small cadre of enthusiasts, plate -modulated AM isn't heard much anymore, either. Regenerative receivers are all home-brew these days, lovingly crafted by a few caretakers who still safeguard the Major's gift. The elegant mechanical designs that made earlier radios so special - and frustrating - with ganged capacitors, clever synchronized cam-and-lever assemblies and robust mechanical dials, have all been replaced with software and programmable logic arrays.

For better or worse, amateur radio is firmly embedded in the digital domain, and if you think that emerging future systems won't supplant what we now think of as amateur radio, evolution will certainly prove you wrong!

Ham radio's first hundred years witnessed dramatic change, and in another hundred years we probably won't even recognize what ham radio has become - if ham radio exists at all. In "geologic time," ham radio will likely have come and gone in a finite, and rather small, window of evolution.

With what we know about the evolutionary progression of other technologies, species, etc, and all of the evidence we've collected to date, there's a good chance that the phenomenon we call amateur radio will have been born, matured, evolved and "died," in a 150-250 year period. Period!

And as if this isn't unsettling enough, let's not forget to marvel at the quirks of solar and planetary physics that enable radio at the fundamental level. Electricity and magnetism - still largely unfathomable even though we take them for granted on a practical level - comprise radio on a local level, but "global radio" requires an ionosphere, which is itself powered by the sun, whose output varies in mysterious cycles, etc. The list of dependencies and "coincidences" is really starting to add up! And if you take away even one part of the whole interdependent system - poof! - no radio.

Therefore, if you love amateur radio as it's practiced today, you'd better get busy enjoying it - today! – because our entire hobby likely exists in a precious, precarious evolutionary bubble, never experienced before and probably never to be experienced again.

Whether it's an inflection point or the point of no return, when you woke up today (or any day in the past few years), amateur radio was different. There's no wondering about whether it will someday be different - that day is today and amateur radio is different. Joe Taylor "caused" the present, local disturbance, but if he hadn't, someone else would have.

In the present moment, though, even if we have crossed the event horizon, amateur radio is still alive and well, and our far-off future - albeit closer than ever as evidenced by JTxx and FTxx digital technology - is yet to be determined.

The full breadth of past and present radio is available for exploring (spark gaps excepted!). We can build a classic regenerative receiver or buy a state-of-the-art synthesized radio. We can use Morse code or the most advanced computerized digital signal modulation. Or we can use a primitive regen to copy the most advanced digital signals (perhaps stabilizing the oscillating detector via GPS?). But it won't stay that way - guaranteed!

NT0Z's Quest for 160-meter QRP WAS

Last month, I updated everyone about the fate of my newly redeemed 160-meter inverted-L (a modest 25-footer over a decent set of ground radials) and my winter quest for working 160-meter QRP WAS. Actually, I tried twice, so far, to qualify in a single contest weekend. I got close-so close-each time, and this month's main column discussion turns out to be rather relevant.

Having used low, horizontally polarized dipoles and such on 160 over the years, I was stunned by how well the inverted-L worked and wished that I had figured that tidbit out a few decades ago.

My first attempt to work every US state with 5 W of RF on 160 meters took place in December during the ARRL 160-meter contest. Everything was good, including band conditions, but I came up a bit short, working 45 states (and some DX), including Alaska (one of the two "killers," the other of which is Hawaii).

I didn't hear a peep out of the Pacific, and my Alaska QSO was made at "psychic intuition" signal levels. The rest were relatively easy, but some key players were missing, including CQers from Wyoming, North Dakota, Utah, and South Carolina. Yes, South Carolina! As has been my habit, I rarely called CQ during contests in which I'm working QRP. That has been a mistake.

Still, 45 states and a bunch of Caribbean DX in one shot was a success worth celebrating. I'd use the Stew Perry contest, I thought, to finish everything off. Well, propagation for the Big Stew was less than awesome, so I only managed to fill in my missing Utah QSO. Four to go, with plenty of winter remaining.

The CQ 160-meter contest in late January offered a fresh start and fantastic propagation. As before, I was working the contest not to make the biggest possible score, but to work as many (all?) states as possible.

I managed to work 47 states this time, filling in all of the previously missing lower-48 states now that K0IDX was on from North Dakota, but missing Hawaii, Alaska, and Nebraska! Yes, Nebraska! Nobody was CQing from that state and, according to after-action reports, many contest ops had missed it too, unless they were calling CQ and someone from Nebraska had replied. That was the missing piece.

As mentioned, over the years I hadn't really called CQ when working QRP, but because of the Nebraska debacle, and because I heard W1VT calling CQ near the top of the contest window, I decided to give it a try.

Zack W1VT was the ARRL's senior RF engineer in my QST days and, in addition to being the go-to guy for anything RF, he is also a noted QRP practitioner. I heard Zack's CQ, and it was weak. But from past experience I figured W1VT was running half a watt to some low wire antenna. He heard my single-call reply to his CQ (QRP experts have great ears, too), said hello, and handed me Connecticut.

With several hours to go, needing only Alaska, Hawaii and Nebraska, I was running out of stations to work, so I figured I'd follow Zack's lead and call CQ. I didn't expect AK or HI stations to hear my CQs, but I figured a NE station might, as signals between our respective regions had been strong throughout the contest and it was looking like that would be the only way for me to find one, anyway.

So, I programmed my logging software to call CQ via an old-fashion serial port on my PC and a home-brew opto-isolator, with me handling the paddles for everything else. On my second call, a station called me! When all was said and done I had made 350 QSOs in the contest, about a hundred of which came from my own CQs. Nebraska, unfortunately, wasn't among them.

In addition to racking up QSOs and scoring contest points, ops from two Canadian multipliers called me, VE7 and VY2, which was nice. My "20-minute adjusted hourly QSO rate" peaked at 57, which I thought was awesome for running QRP on 160 meters.

I would often call CQ five or six times between takers, but a few times, several stations were calling at once, causing a small pileup. But this time I was the "DX." It's always good to be the DX!

As it stands, assuming I can get QSLs or LoTWs from all of the stations, I need only Hawaii to complete my 160-meter WAS QRP adventure. I learned a lot along the way, but I also learned that signal levels between HI and MN are almost always puny-weak. Probably too weak for QRP CW unless the planets really align. (I thought that about working HI on 80-meter QRP, too, until I did it several times with my previous attic antenna. As with Roger Bannister's sub-4-minute mile, it's only difficult until you do it!)

I will soldier forward for the rest of the season trying to work Hawaii on CW or PSK31. But if summer static is approaching and nothing's in the log, I know what I must do - work 'em via FT8 until I can fill in that state with a "full conversation" mode.

Ouch. I suppose I will have to make a deal with the radio gods to do 10 hours of ragchewing for every state or DXCC entity I work exclusively via FT8. That sounds fair, doesn't it? Mr. Marconi? Mr. Maxim? Mr. Fessenden? Anyone?

Stealth Amateur Radio - by NT0Z
stealthamateur.com

Excerpts from the HX files
Pat Fitzpatrick EI2HX - Excerpt 043

Hello and welcome to Xtract 043 of the HX Files.
In this issue some portable work with the Yaesu FT 817ND and an FT897.

Last time
In the last HX Files you saw the rack system made for the Yaesu FT817, incorporating the radio, an ATU and battery. I went out and about /P with the afore-mentioned radios at the recent Mills on the Air weekend and my location was at the Mills Complex in Skerries County Dublin.

Above you can see my station setup, the two radios and the aerial, a fishing pole type aerial with a total height of 6m from top to bottom. The unique thing about the station was that the radios and indeed the auto-ATU are all worked by their own internal batteries.

The keen-eyed (hungry-eyed) among you may notice an external battery in the rack system; this is a 12 volt 12 amp gel battery purchased from that well known battery guy Brian EI8IU at the IRTS AGM in Galway. This battery is a backup in case the internal ones get depleted and keep me going for another bit longer.

Careful now
Keeping away from the operating frequencies of the station in the mill, I first measured the receive signals of the radios by being able to use an aerial switching unit to quickly change from one rig to another and listen to the receive signals and compare the two radios. The FT 817ND was purchased last November and the FT 897 was a recent Silent Key purchase. It is the first generation of the radio, so it has a few years under its belt. However there was nothing wrong with its receive as both radios only had one "S" point at most between them over the various bands I tried them on. In the photo opposite you can see the aerial used on the day.

WTF (what the f*)**
With the testing done on the receive front it was time to do some transmitting so I started with the 817 and pressed the tune button and nothing happened, no tune light lit or the whirring of the tuner heard.

All the leads were checked and still nothing, the batteries for the AATU are brand new and, yes, one could be faulty or there could be a bad connection in the tuner, but of all the bits and pieces brought to the site my toolbox was safe and sound at home in the back hall at home. I don't think I would have taken anything apart on site if the tools were to hand, so not having much heed in testing the FT 897 the station was taken down and packed away.

After talking to a couple of FT 817 owners, one of them said his tuner worked straight away, the other said he had a problem with his and he had bought his radio new and he told me he remembers having to switch something on in the radio before the LDG 817 would work.

RTFM (read the Manual)
So safely at home the leaflet for the LDG 817 was unearthed and read and, lo and behold, there it was, switch this to that and hey presto the tuner worked, I only had a dummy load connected, but thank #~&% the thing worked.

Take 2
A few days later a trip was made to a nearby location and the FT 817 and fishing pole aerial were setup and this time everything worked perfect, a few QSOs were made, a couple in the UK and one each in France and Spain, so happy days indeed.

Short and sweet
That is it for this time and I would like to wish you all good DX wither it happens to be QRPP, QRP or QRO.
Best 73
Pat.

Galway VHF Group AREN – Connemara Ultra Marathon 2018
Steve Wright EI5DD

On an annual basis, the Galway VHF Group provide communications for the Connemara Ultra Marathon. This generally occurs on HF using 80ms. We were minus two key personnel this year, Arthur, EI7GMB, and Gerry EI8DRB. We normally run two HF base stations. One in the Maam Community Centre at the bottom of the Maam Valley and the other at Peacock's at Maam Cross.

As seen from the map the terrain is not VHF friendly, so HF has to be employed. The use of 5 MHz NVIS would be out of the question as it is unlikely that anyone in the group would go out and purchase such a mobile antenna. From a base perspective NVIS would be possible. For the area covered, 80m ground wave is sufficient and adequate for the majority of the course.

This year, given the reduction in operators, it was necessary to put into practice some other means of communication based on observations from previous years. APRS was one idea, DMR via hotspots, and PTT over cellular using the INRICO TM-7 was used with reservation.

The first task was to set up the VHF antenna and secure contact with the Medical Centre at Maam Cross. The antenna was a VHF colinear on a fibreglass hoisted into a tree. Not the best, but it did work fine.

The next task was to set up the HF antenna as soon as possible. The dipole antenna was mounted on a fibreglass pole secures to a fence post at a good height. This only took about ten minutes to set up. As good strong signals were received on 2m in Maam Cross we decided to make this the primary frequency for that location. HF was only used if there was a need. There wasn't on this occasion.

The ends of the dipole were secured to a flagpole at one and another fibreglass pole at the other. It was surprisingly easy to set this one up.

Below is a picture of John making last adjustments to his HF system before going mobile. The mobile whips are excellent if the earthing is OK in the car but if it is poor, the tuning is difficult. A quick call to Tom in Maam Cross and confirmation of good clear signal was made.

The Maam Community Centre

The base station was a CODAN commercial HF system set up on 3750 KHz. The DMR rig was connected into the system via WiFi and also the DV4 Mini. C4FM was used on the FTM100 in the background.

All stations were now up and running and in contact. Joe set off for Leenane. Steve was through Leenane at this stage and heading for the Inagh Valley to the start of the Full Marathon. Communication via DMR and the TM-7 proved successful with crystal clear audio on both methods of communication. Joe's car had the FTM100 on C4FM and also the Inrico TM7 in the foreground. A GD-77 handheld was in use as well.

Steve, EI5DD, had the Inrco system, the FTM 400 on C4FM, and also a Motorola DM4600 for test throughout the event. The TM-7 had APRS Droid installed and sent position reports at intervals.

The portable, self-contained Hotspot system with power pack, cellular WiFi, router with ethernet port for the Shark RF Openspot and a spare UHF handheld just in case (sic).

The full marathon started on time with a huge number present. Behind these runners, were the ultra-marathon runners.

At the very back of each section of the marathon, were the Order of Malta Ambulance and the mini bus to look after anyone in difficulty of those who wished to drop out at any point.

In Leenane, the first of the runners were beginning to arrive from the Full Marathon.

The weather was not wonderful with some heavy showers here and there, but it was not too cold. There were probably only a couple of cases of hypothermia this year and very few injuries. The runners in the picture had approximately ten

more miles to run but the last few miles were uphill to the finish.

Once the last of the walkers had passed that point the net transferred to C4FM as all cars were not in range of the centre. The HF operator still communicated on HF whilst checking five miles back to see if there were any stragglers.

As always it is far easier to take equipment down than put it up. The HF antennas were removed, and the station packed. The last of the runners passed the Centre and any other communications were now confined to VHF.

At the finish line, the medical Centre was established. Many of the runners were suffering from exhaustion but a rest and some high energy drinks slowly brought them round. Some started to feel cold once they stopped running and needed to br wrapped in foil blankets to bring up their temperature.

What did we learn from the day?
1) HF is still the most reliable method of communicating through mountainous terrain.
2) The cellular network was good as there was an almost continuous strong signal in the Connemara area. This was a surprise but, bear in mind, the TETRA system had worked perfectly for the Order of Malta.
3) DMR worked well and there were other interesting possibilities for this system.
4) PTT over cellular networks was perfect and vey clear. It has a place in the scheme of things.
5) Forget 2m. At best it was useful up to 7km and occasionally gave us a surprise, but not enough to warrant reliability.

We thank the team Andrew EI3FEB Net Controller, Tom EI2GP on standby at the medical Centre, John EI1EM for his constant access to base on HF, Joe EI3IX stationed in the Leenane area and Steve EI5DD mobile between the Inagh Valley and the finish line. We thank Mark Bannon, EI6HPB, for coming along to view our activities and assist where required. We will have plenty of work for him in future! He made a few useful contacts whilst out and about. It was good to work with the Order of Malta and the Bike Marshals on this event.

The various methods of communication were rigorously tested, and we now know their limitations. A check of the APRS map shows the coverage from the Inrico from the APRS signal emitted via cellular data. Note that it was not covering the first part of the marathon as EI5DD/M did not follow the section before the full marathon. It would have undoubtedly covered that area if this area had been travelled.

The map shows the track from the start of EI5DD's Journey from Galway to the end of the event and back home. APRS proved the effectiveness of the cellular data system and hence the TM-7's efficiency and also the potential of DMR. Perhaps APRS Driod for Mobile Phone should be a must for all participating.

It would be unwise to just go in blind to such an event and presume that the cell network would work perfectly in mountainous terrain. A very wise thing to check the area first. Our group always have the areas checked out beforehand and, in many cases, we would be stomping over old ground.

Publications Library

Members are reminded that the IRTS web site has a *Publications Library*, where scanned copies in PDF format of old IRTS publications, principally newsletters, as far back as 1948 are available. This Library forms an important digital record of past society activities.

Many thanks to those members who have already made old newsletters available for scanning; we would encourage others to search for old IRTS publications that are not already on the site and send them to Joe EI7GY for scanning.

Contest News

Joe Ryan EI7GY *contestmanager@irts.ie*

IRTS Contest Results (award winners are on page 32)

80 Metres Evening Counties Contest, 20th February 2018
I guess there will always be an excuse for a low turnout in local contests, so for this contest we will blame the weak ionospheric conditions. On the night of this contest, the F2-layer critical frequency around Ireland was particularly low, dropping at one point to 2.25 MHz; at the same time, the short-skip (100 km) F2 MUF was below 3 MHz. The result was that local QSOs in this contest, beyond ground wave distances, were a challenge. Despite the adverse conditions, 26 EI and GI stations in 14 counties, participated in the contest, assisted by the participation of more than 30 overseas stations – from England, Scotland, Guernsey, Germany, Finland, Belgium, Denmark and Poland. With weak ionospheric conditions likely for another few years, we will continue to rely on overseas participation to help make our short single-band contests viable.

Easter Monday UHF/VHF Contests, 2nd April 2018
If we were looking for an excuse for a low turnout on Easter Monday, this time it would be the weather! We had snow on the hills in the Midlands and North, making it harder for the portable stations that are so important for the success of these VHF contests. Fortunately, we radio amateurs are a hardy bunch: 11 portable stations submitted logs for one or both of these contests. In case anyone has forgotten what it was like on Easter Monday, I have put together a montage of photos featuring some of the portable stations that were out on the hills on the day, see page 32. Well done in particular to Albert EI6KO/P and David EI7GEB/P who braved the elements and pitched their tents in the snow.

Our first 70cm Counties Contest was on Easter Monday 2017, taking place just before the 2 metres event. This proved successful, so for 2018 we scheduled a 70cm contest before the 2 metres contests at Easter time and in the Autumn.

For the 70cm contest 18 logs were submitted, showing 43 stations (33 EIs, 10 GIs) active in 20 counties. Not a bad turnout for 70cm, something to build on for the future.

The 2 metres contest had more support, with 26 logs submitted, showing 82 stations (54 EIs, 28 GIs) active in 26 counties – the missing counties being Kildare, Leitrim, Longford, Offaly, Wexford and Wicklow; all the GI counties were represented in the logs.

Many of the QSOs in these VHF/UHF contests are relatively local: in the 70cm contest, the most counties worked by any station were 8, out of the 20 active counties; Albert EI6KO/P in Laois and Damian MI6KUB in Armagh both achieved this. In the 2 metres contest, EI6KO/P worked 15 of the 26 active counties.

These contests are enjoyable, friendly affairs. The QSOs tend to be longer than usual for contest QSOs. Over the years I have waited for several minutes for a QSO to finish so that I can work a new multiplier; seasoned contesters might find this frustrating, but the slow pace and sociable atmosphere of Counties Contests are part of the attraction.

The 70cm event is for one hour, the subsequent 2 metre contest is for 2 hours. The second hour can be fairly quiet and it has been suggested that perhaps one hour would be sufficient for the 2 metres event. Arguments for keeping this contest at two hours would include making it worthwhile travelling to and setting up in portable locations, also when participation levels are higher than in the recent event, the band can still be busy during the second hour. The contrary argument is that one hour is long enough given the typical level of participation.
What is your view?

40 Metres Counties Contest, 6th May 2018
Anyone listening to the 40 metres Sunday news bulletins will know that the band has not been in good shape for local QSOs in recent months. I know that the solar cycle has an impact on all HF bands, but I have been on air for a number of solar cycles and I cannot remember such a prolonged period of poor local propagation on this band. So, once again, we had challenging band conditions for this contest, the only consolation being that the WX was perfect!

24 logs were received, 15 from EI stations, 8 from England and one from Scotland. No GI logs this time. 19 EI and GI counties were represented in the logs; excluding uniques, 26 EI & GI stations and 42 overseas stations (in 7 DXCC entities) took part in the contest. QSOs involving an overseas station accounted for 40% of all QSOs; good support from overseas has become an increasingly important part of the HF counties contests. The published results illustrate this, with the highest-scoring overseas station (GMØWED, Edmund) working fifteen counties, whereas the most worked by an Irish station was eleven. Most of us had to make do with far fewer counties than that!

Despite the problems with conditions during the recent contests, they were well supported and we received many favourable comments along with the logs. The Counties Contests continue to be popular, the format is ideal for our small island and we can look forward to better conditions in the future (I say this because they can hardly get any worse!).

Contest Certificates
An award in the form of a certificate is made to the leading stations in every contest section. 54 certificates were awarded for the IRTS contests in 2017. These certificates have traditionally been presented at the society's annual general meeting, along with award trophies and cups. The certificates presented at the AGM were in respect of the previous year's contests, so in some cases the award winners received certificates for a contest they had won more than 12 months previously.

Earlier this year we decided that it would be better if award certificates for contests were available for downloading at the same time as the contest results are published, instead of being presented at the AGM. We contacted the contest winners for 2017 and 2018 to date and advised them of this, offering to send a printed copy of the award certificate to any award winner requesting it. The responses to this communication were positive.

At the AGM in Galway, the 17 trophies and cups for IRTS contests, as well as awards for the IOTA and CQWW DX contests, were presented. A number of those attending the meeting were unhappy with the absence of award certificates at this presentation. For next year's AGM, therefore, we will revert to the previous practice of presenting award certificates at the AGM, however we will continue to make downloadable certificates available on the contest results pages.

CQWW Contest 2017

The CQ Worldwide DX Contests are among the biggest contests in the contesting calendar; the SSB event takes place in October, CW in November. Last year 8,606 logs were submitted for the SSB contest (15 from EI stations) 8,451 for the CW event (17 from EI stations). These are 48 hour contests, with stations from all continents participating, and all of the HF contesting bands in use. A completely different experience than our short single-band local counties contests! A number of new "Ireland Records" were set during these contests: three of the award certificates are shown on page 33. Well done to all involved! It's good to see that some of those achieving new Irish records are also strong supporters of the IRTS Counties Contests.

Forthcoming IRTS Contests

VHF/UHF Field Day – Sat/Sun 7th/8th July 14:00 UTC (24h)

SSB Field Day – Sat/Sun 1st/2nd September 13:00 UTC (24h)

70cm Counties – Sun 9th September 1.00 pm local (1h)
2m Counties – Sun 9th September 2.00 pm local (2h)

Links

Contest rules & calendar: *www.irts.ie/contests*
Contest results: *www.irts.ie/results*

GDPR

Joe Ryan EI7GY joe.ei7gy@gmail.com

Data Protection

Most of us by now will be familiar with the General Data Protection Regulation (GDPR) because companies involved in online business activities are getting in touch with their customers highlighting their new privacy policies and, in some instances, asking customers to accept updated terms of business. GDPR requires that an organisation processing personal data must be able to demonstrate that a lawful basis applies, and this lawful basis needs to be documented. From the IRTS point of view, the relevant lawful bases are *contract* or *consent*; one of these lawful bases is required.

The implications of GDPR for IRTS were examined by a group consisting of Séamus EI8BP, Dave EI6AL, Seán EI7CD and myself. We obtained advice from a solicitor familiar with GDPR. Our conclusions were discussed at a recent meeting of the society's committee, which agreed to adopt our recommendations. Some of the recommendations dealt with background administrative processes, however one of them – ceasing the publication of a call book – was very visible.

By way of background, the call book is based on data supplied by ComReg combined with amendments and additions requested by call sign holders. ComReg is at present reviewing the position in relation to making data on amateur stations available to IRTS. Since the ComReg data is at the core of our call book, we need to await the outcome of ComReg's review before establishing how we can progress. New systems may be needed to maintain call book data in accordance with GDPR requirements. In the interim, the society is not in a position to publish an online or printed edition of the call book.

Another, less visible, casualty of the GDPR changes was the searchable email list: we had a contact list containing 370 email addresses that could be searched by call sign or name. This facility was rarely used, and indeed some of the data was obsolete. As the consents now required for such a list are not in place, the list has been removed.

We have contact information for the almost 40 officers and committee members shown on the web site and in this publication, as well as a similar number of club representatives and rally organisers listed on the web site. We are currently in the process of obtaining the necessary consents from all the individuals involved.

Joe Ryan EI7GY

See the updated Privacy Policy at
www.irts.ie/privacy

Award Winners - IRTS Contests

80 Metres Evening Counties Contest, 20th February 2018

SSB Only, EI/GI Stations	EI9FVB, Declan Horan
SSB/CW, EI/GI Stations	GIØRQK, Colin Williamson
SSB Only, Outside EI/GI	G6UBM, Les Featherstone
SSB/CW, Outside EI/GI	G3RSD, John Reynolds

70cm Counties Contest, 2nd April 2018

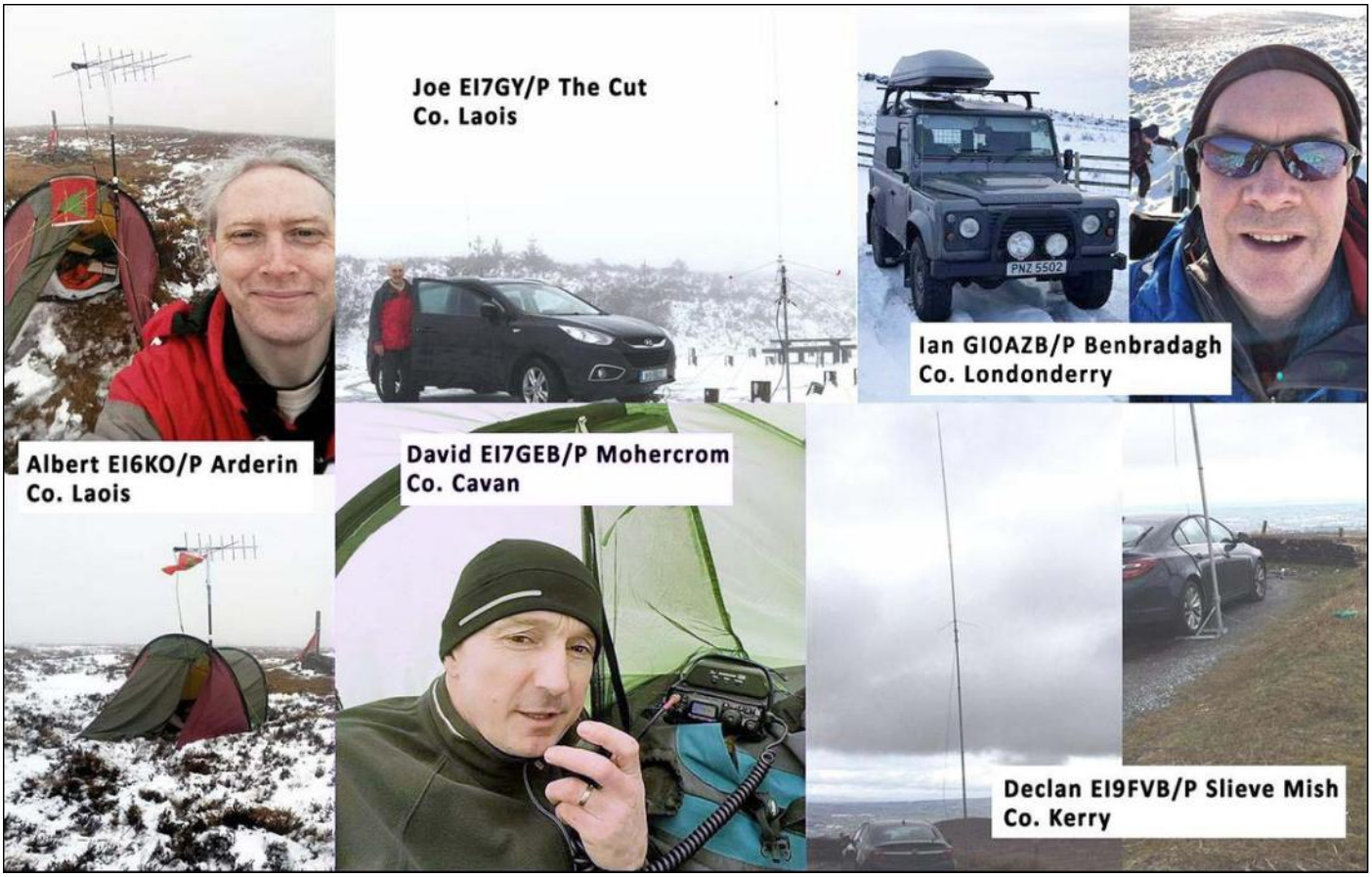
SSB/FM Low Power Portable – max. 10W	EI7GEB/P, David Morgan
SSB/FM High Power Fixed	EI9JS, Dominic Curtin
FM Only – Single Op. (EI Stations)	EI6KO/P, Albert White
FM Only – Single Op. (Outside EI)	MI6KUB, Damian Walsh

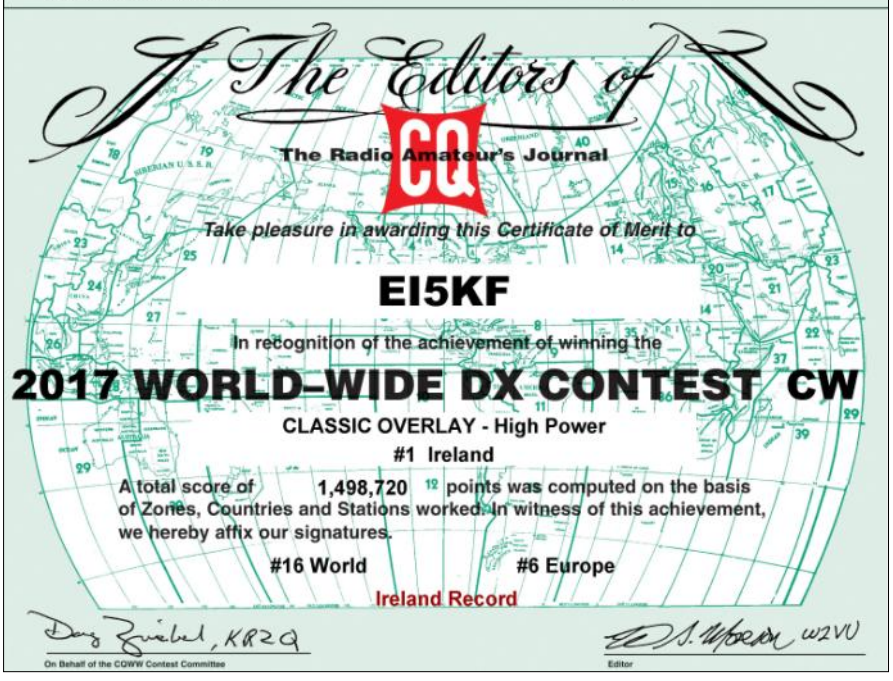
2 Metres Counties Contest, 2nd April 2018

SSB/FM High Power Portable (EI Stations)	EI9FVB/P, Declan Horan
SSB/FM High Power Portable (Outside EI)	MDØMAN/P, Matty Cunningham
SSB/FM Low Power Portable – max. 10W	EI6KO/P, Albert White
SSB/FM High Power Fixed (Outside EI)	MIØRRE, Robert Rantin
SSB/FM High Power Fixed (EI Stations)	EI6JK, Mark Condon
SSB/FM Low Power Fixed – max. 10W	EI4KN, Ronan Daly
FM Only – Single Op. (EI Stations)	EI4IP/P, Sean Kennedy
FM Only – Single Op. (Outside EI)	MI6KUB, Damian Walsh

40m Counties Contest, 6th May 2018

SSB Only Fixed, EI/GI Stations	EI9HX, Patrick O'Connor
SSB Only Portable – 100W max, EI/GI Stations	EI2WRC/P, South Eastern Amateur Radio Group (ops: EI3HQB, EI6GVB, EI7HKB, Philip SWL)
SSB/CW Fixed, EI/GI Stations	EI5KF, Gerard Scannell
SSB/CW Portable – 100W max, EI/GI Stations	EI7GY/P, Joe Ryan
SSB Only, Outside EI/GI	G4IDF, Dave Hobro
SSB/CW, Outside EI/GI	GMØWED, Edmund Holt





EI DXCC Single Band Status

as at 2nd June 2018

Compiled by Joe Ryan EI7GY

		160	80	40	30	20	17	15	12	10	6	2
10	EI2GLB	160	80	40	30	20	17	15	12	10	6	
10	EI2JD	160	80	40	30	20	17	15	12	10	6	
10	EI3IO	160	80	40	30	20	17	15	12	10	6	
10	EI7BA	160	80	40	30	20	17	15	12	10	6	
10	EI9FBB	160	80	40	30	20	17	15	12	10	6	
9	EI6FR	160	80	40	30	20	17	15	12	10		
9	EI6IZ	160	80	40	30	20	17	15	12	10		
8	EI7GY		80	40	30	20	17	15	12	10		
8	EI8IU		80	40	30	20	17	15	12	10		
8	EI9FVB		80	40	30	20	17	15	12	10		
7	EI1DG			40	30	20	17	15	12	10		
7	EI4BZ		80	40	30	20	17	15		10		
6	EI7JZ			40		20	17	15	12	10		
6	EI9HX			40		20	17	15	12	10		
5	EI4CF			40		20	17	15		10		
5	EI4GJB					20	17	15	12	10		
5	EI4HH					20	17	15	12	10		
5	EI6AL					20	17	15	12	10		
5	EI6JK			40		20		15	12	10		
5	EI8GS		80	40		20		15		10		
5	EI9E		80	40		20		15		10		
5	EI9GLB					20	17	15	12	10		
5	EI9JF			40	30	20	17	15				
4	EI3GV					20	17	15		10		
3	EI3CTB					20		15		10		
3	EI4GK					20		15		10		
3	EI4GNB					20		15		10		
3	EI5EV					20		15		10		
3	EI6FM					20		15		10		
3	EI6HB					20		15		10		
3	EI7GL			40						10	6	
3	EI8JX			40		20		15				
3	EI9HQ					20		15		10		
2	EI2II					20				10		
2	EI4DQ										6	2
2	EI5IF					20		15				
2	EI7IG					20		15				
2	EI7JN					20		15				
2	EI8IQ					20		15				
2	EI9CN					20		15				
1	EI3EBB										6	
1	EI3HA					20						
1	EI5FQB					20						
1	EI5GSB					20						
1	EI6S		80									
1	EI9CJ									10		
		160	**80**	**40**	**30**	**20**	**17**	**15**	**12**	**10**	**6**	**2**

IRTS QSL Service

Special Event Call Signs

The outwards and inwards QSL service is available free to IRTS members, whether individuals or clubs, for their own call and for special event stations licensed to them.

The service is also available free to JOTA stations, irrespective of whether an IRTS member is the licence holder.

Operators of special-event stations should supply details to the relevant incoming QSL Manager listed on *www.irts.ie* and on the inside front cover of *Echo Ireland*

EI DXCC Listings - Compiled by Joe Ryan EI7GY

as at 2nd June 2018

Entries in Bold Type show changes since 26th February 2018

Mixed

357	EI6S
354	**EI7CC (+1)**
349	**EI6FR (+1)**
347	**EI8EM (+1)**
346	**EI7BA (+1)**
336	EI9FBB
334	EI3IO
329	EI5GM
328	EI9O
324	EI2GLB
320	EI4II
312	EI6IZ
312	EI8FH
310	**EI8IU (+2)**
306	EI2HY
306	EI4CF
304	EI2JD
303	EI2CR
300	EI9FVB
297	EI7JZ
287	EI9JF
279	EI9GLB
269	EI8GS
268	EI4BZ
268	EI6AL
263	EI5JQ
262	EI2GX
251	EI1DG
249	EI4HH
245	EI5GUB
243	EI6JK
241	EI7GY
230	EI4GXB
215	EI6FM
214	EI5IF
214	EI9E
210	EI6IL
209	EI7JN
197	EI4IR
193	EI3HA
192	**EI3CTB (+18)**
191	EI6HB
190	EI9CN
189	EI9HQ
184	EI5EV
175	EI7IG
170	EI4GNB
162	EI5FQB
160	EI4GZB
135	EI9CF
131	EI5GSB
128	EI8HA
127	EI9CJ
105	**EI5KO (New)**
104	EI9GWB
103	EI3HDB
101	EI7JQ
101	EI8JB
100	EI3GAB
100	EI4GD
100	EI4HQ
100	EI8KF
100	EI9GGB

CW

343	EI6FR
340	**EI7BA (+1)**
334	**EI7CC (+1)**
321	EI9FBB
309	EI6IZ
305	EI8FH
301	EI2GLB
301	EI3IO
293	EI4CF
293	**EI8IU (+3)**
287	EI2JD
253	EI9JF
248	EI6AL
247	EI4BZ
238	EI5GM
233	EI7GY
220	EI8JX
214	**EI1DG (+1)**
201	EI9FVB
197	EI4HH
179	EI7JZ
169	EI7IG
127	EI9CF
127	EI9E
126	EI4BK
113	EI2KK
109	EI2IH
107	**EI3CTB (+7)**
104	EI6HB
100	EI3KE
100	EI3KG

Phone

354	EI6S
352	**EI7CC (+1)**
347	**EI8EM (+1)**
344	**EI7BA (+1)**
339	EI6FR
331	EI8AR
324	EI9FBB
309	EI3GV
307	EI3IO
306	EI9HX
300	EI4GK
292	EI2GLB
291	EI9FVB
285	EI7JZ
284	EI2JD
281	**EI8IU (+2)**
279	EI9GLB
275	EI4CF
269	EI8GS
241	EI6JK
225	EI9JF
222	EI4HH
222	EI8FH
216	EI7GL
213	EI4BZ
212	EI6AL
211	EI6FM
210	EI9E
208	EI4GJB
200	EI6IL
191	EI3HA
188	EI2CH
188	EI9CN
186	EI7II
186	EI9HQ
177	EI5IF
177	EI9FE
162	EI5FQB
160	EI2II
160	EI6HB
159	**EI3CTB (+16)**
157	EI4GNB
131	EI5GSB
105	**EI1DG (+1)**
103	EI3HDB
103	EI6GGB
102	EI4DJB
101	EI3IP
100	EI3GAB

RTTY/Digital

306	**EI7BA (+1)**
261	**EI6FR (+3)**
230	EI1DG
219	**EI8IU (+1)**
207	EI2GLB
195	EI8FH
137	**EI3CTB (+8)**
121	EI6HB
108	EI5IF
104	**EI5KO (New)**

160m

253	**EI7BA (+2)**
213	EI3IO
144	EI6IZ
138	EI9FBB
125	EI2JD
105	**EI6FR (+4)**
101	EI2GLB

80m

310	EI6S
300	**EI7BA (+2)**
244	EI9FBB
198	**EI6FR (+4)**
171	EI2JD
151	EI3IO
145	EI6IZ
135	EI2GLB
123	EI4BZ
123	EI9E
111	EI7GY
103	EI8GS
101	**EI8IU (New)**
100	EI9FVB

40m

319	**EI7BA (+1)**
259	**EI6FR (+2)**
258	EI9FBB
216	EI6IZ
209	EI4CF
208	EI2GLB
206	EI2JD
202	EI3IO
177	EI9JF
154	EI6JK
151	EI7JZ
144	EI9E
142	EI4BZ
130	**EI8IU (+6)**
129	EI8GS
128	EI9HX
127	EI7GY
125	EI9FVB
122	EI1DG
118	EI8JX
117	EI7GL

30m

333	**EI7BA (+1)**
259	**EI6FR (+2)**
258	EI9FBB
233	EI6IZ
231	EI3IO
183	EI2GLB
167	EI9JF
156	EI7GY
153	**EI8IU (+6)**
127	EI2JD
121	EI4BZ
112	EI1DG
106	EI9FVB

20m

341	**EI7BA (+1)**
340	**EI6FR (+2)**
329	EI9FBB
266	EI2JD
266	**EI8IU (+2)**
261	EI3IO
257	EI9HX
256	EI4CF
256	EI9FVB
255	EI2GLB
247	EI6IZ
223	EI7JZ
217	EI9JF
211	EI8GS
200	EI4BZ
194	**EI1DG (+1)**
180	EI9E
173	EI9GLB
171	EI7JN
168	EI8JX
166	EI7GY
161	EI6JK
154	EI4HH
151	EI6FM
145	EI6HB
144	EI4GJB
139	EI9HQ
138	EI6AL
137	EI9CN
136	**EI3CTB (+10)**
133	EI5FQB
133	EI5IF
130	EI3GV
129	EI4GNB
126	EI3HA
115	EI7IG
113	EI4GK
112	EI8IQ
105	EI2II
102	EI5EV
102	EI5GSB

17m

335	**EI7BA (+1)**
306	**EI6FR (+3)**
306	EI9FBB
253	**EI8IU (+2)**
238	EI6IZ
216	EI2GLB
210	EI9FVB
197	EI2JD
170	EI6AL
167	EI7GY
162	EI4CF
162	EI7JZ
156	EI1DG
155	EI9HX
148	EI4HH
146	EI3IO
146	EI9JF
127	EI4GJB
121	EI9GLB
112	EI4BZ
108	EI3GV

15m

335	**EI7BA (+2)**
313	EI6FR
305	EI9FBB
267	**EI8IU (+3)**
253	EI2GLB
251	EI4CF
249	EI9FVB
232	EI2JD
227	EI3IO
223	EI6IZ
202	EI4BZ
197	EI7JZ
193	EI6JK
190	EI9E
188	EI1DG
181	EI8GS
172	EI9HX
171	EI4HH
168	EI6AL
155	EI7GY
149	EI8IQ
139	EI8JX
139	EI9GLB
136	EI6HB
132	EI4GNB
126	**EI3CTB (+4)**
125	EI6FM
123	EI9CN
120	EI4GJB
113	EI3GV
109	EI7JN
107	EI5IF
105	EI5EV
105	EI9HQ
105	EI9JF
104	EI4GK
104	EI7IG

12m

326	**EI7BA (+1)**
282	EI9FBB
224	**EI8IU (+5)**
206	EI9FVB
192	**EI6FR (+1)**
168	EI2GLB
164	EI6IZ
154	EI6AL
151	EI2JD
140	EI6JK
136	EI1DG
134	EI7JZ
128	EI3IO
118	EI7GY
110	EI9HX
103	EI9GLB
100	EI4GJB
100	EI4HH

10m

308	EI7BA
284	EI9FBB
262	EI3IO
232	EI2GLB
231	EI6FR
215	EI9FVB
207	**EI8IU (+2)**
199	EI2JD
199	EI4CF
183	EI4BZ
180	EI4HH
177	EI9E
173	EI6JK
172	EI1DG
171	EI8GS
170	EI6IZ
168	EI7JZ
167	EI6AL
144	EI7GL
140	EI6FM
136	EI4GK
133	EI7GY
125	EI9GLB
123	**EI3CTB (+7)**
123	EI4GNB
116	EI9HQ
112	EI4GJB
111	EI9CJ
111	EI9HX
105	EI6HB
104	EI3GV
101	EI2II
101	EI5EV

6m

164	EI3IO
150	EI9FBB
118	EI7BA
111	EI7GL
108	EI2GLB
107	EI2JD
101	EI3EBB
100	EI4DQ

2m

145	EI4DQ

DXCC Honor Roll

Mixed

340	**EI6FR/349 (+1)**
340	**EI7BA/346 (+1)**
339	**EI7CC/354 (+1)**
338	**EI8EM/347 (+1)**
337	EI6S/357
333	EI9FBB/336

Phone

338	**EI7BA/344 (+1)**
338	**EI8EM/347 (+1)**
337	**EI7CC/352 (+1)**
336	EI6S/354
331	EI6FR/339

CW

337	EI6FR/343
335	**EI7BA/340 (+1)**

DXCC Challenge

2928	**EI7BA (+11)**
2534	EI9FBB
2256	**EI6FR (+18)**
1964	EI3IO
1854	EI2GLB
1840	EI6IZ
1783	**EI7CC (+63)**
1766	EI2JD
1675	**EI8IU (+41)**
1531	EI9FVB
1466	EI4CF
1259	**EI1DG (+3)**
1188	EI7GY
1176	EI4BZ
1173	EI7JZ
1090	EI6JK
1060	EI9HX
1059	EI5GM
1018	EI9JF

The following Silent Keys were holders of DXCC Awards

DXCC Honor Roll

Mixed

336	EI8H/365
331	EI2GS/340

CW

109	EI4HM

Phone

338	EI2GS
300	EI8AU
116	EI6CPB
114	EI4EX
105	EI1CS

DXCC

Mixed

365	EI8H
340	EI2GS
116	EI6CPB

EI DX Group presents ...

DX Féile 2018

Inishmore, Aran Islands, Co.Galway, Ireland.

September 14th & 15th 2018

Full board accommodation in the award winning 3 star Aran Islands Hotel.

Great line-up of DXpedition talks / presentations.

Meet and socialise with Ireland's DXers along with other International guests.

Open key / mic ... operate the EJ0DXG station and activate IOTA EU-006.

Giant Tombola Raffle - win some great prizes.

DX Quiz and Pile-up Challenge - Test your skill !

A great event assurred – not to be missed !

Enquiries to : Dave EI9FBB +35387 7444777
ei9fbb@gmail.com

eiDX GROUP

Limited Availability

www.dxfeile.ie

Echo Ireland
Autumn 2018

Copy deadline - **20th August**
Articles to ***newsteam@irts.ie***

Please read the recommended submission standards at the back of each edition

Your Society Needs *You*!

To ensure continued publication of *Echo Ireland* an Editor is urgently required

Contact Jim EI4HH

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